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OSTEOMYELITIS *

By ROBERT U. DRINKARD, B.S., M.D., F.A.C.S.

WHEN I was asked to deliver the oration on surgery, I naturally began to think about an appropriate subject. In discussing the situation with my good friend and colleague, Dr. J. R. Caldwell, he suggested, "Why not talk about a subject in which you are intensely interested—Osteomyelitis!"

"Evil communications corrupt good morals," so if you do not like the subject I have chosen, charge it up to my confederate, rather than to the speaker!

Inflammation of the bone does not differ from inflammation of other tissues of the body, with the exception of the intensity of the pain and toxic symptoms produced by the pressure exerted through the non-expansile nature of the bone tissue.

Bone is completely surrounded, with the exception of its ends, by a very vascular, thin membrane, the periosteum. Beneath this is an area of areolar tissue through which traverse lymphatics, nerves and blood vessels on their way to the cortex or compact bone. The cortex varies in thickness according to age, from one-eighth to one-fourth inch in thickness in its middle, to tissue paper thickness at the epiphysis. The medullary cavity of the long bones is filled with bone marrow. This bone marrow extends into the interstices of the cancellous bone which is adjacent to the epiphysis. The bone gets its blood supply from the periosteum and nutrient arteries which perforate the cortex of the bone by way of the Volkmann canals.

The epiphysis, before the age of puberty, is separated from the diaphysis by a layer of cartilage cells from which the bone takes on its growth. The arterioles end in juxtaposition with this layer of cartilage cells and the returning venules form small blood spaces in this region. For this reason a sluggishness is produced in the circulation on the diaphyseal side of the epiphyseal line and this makes it the fruitful field for the lodgment of bacteria.

In trauma a separation of the diaphysis from the epiphysis readily occurs, giving rise to hemorrhage in this region. Consequently in acute osteomyletis we often get a history of trauma.

In tuberculosis the infection practically always occurs on the epiphyseal side of the epiphyseal line, and that is why we get an involvement of the joint.

* Oration on Surgery; read at the Sixty-fourth Session of the West Virginia State Medical Association, Clarksburg, May 20, 1931.

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Syphilis generally involves the periosteum, and if the bone becomes involved it is secondary to the periosteum.

In osteomyelitis due to pyogenic infection, however, on which my remarks will be based, Dr. Clarence I. Starr of the University of Toronto, has shown conclusively, by the study of autopsy specimens dying within the first forty-eight hours, that the infection practically always began as a small necrotic spot in the metaphysis on the diaphyseal side of the epiphyseal line, that the infection spread from this spot by way of the metaphysis to the periosteum and then by stripping the periosteum from the cortex of the bone, and that if the medulla became infected at all it is due to back pressure through the Haversian system.

These autopsy findings in human beings have been verified by experiments on dogs and rabbits. The study of x-ray specimens in chronic osteomyelitis also confirms his conclusions.

It is only necessary in acute cases to make an incision through the periosteum close to the epiphyseal line on the diaphyseal side of the bone involved, making a drill hole into the cancellous part of the bone obliquely pointing toward the epiphyseal line, but not penetrating it. If indicated, two or three such drill holes; or a small window in the cancellous bone with drainage will be all that is necessary. If this is done in the first twenty-four or forty-eight hours, there will be practically no chronic hematogenous osteomyelitis.

Why is it that the surgeon most always gets these cases too late for such a procedure? In the first place, acute osteomyelitis is a rare disease. The average physician will encounter only a very few cases in a life-time, then he generally makes a diagnosis of rheumatism, and gives the patient a course of salicylates before surgical advice is sought.

For example, in 1925 I was called to see such a case. The patient had been treated for rheumatism for two weeks, during which time she had involvement of the lower end of the left tibia and upper end of the right humerus. Neither the shoulder joint nor ankle joint was involved, but definite tenderness with local heat over lower end of tibia and upper end of right humerus. The patient was a female, age ten years; temperature was 102 degrees, pulse 130, and the leucocyte count was 30,000.

The patient was removed to the hospital. A saucerizing operation was made at the lower end of tibia. The wound was packed and dakinized. A small window was made in the upper end of the humerus; this was also packed and dakinized. Pus was found in both regions. Culture showed staphylococcus aureus in both wounds. The patient made a splendid recovery and had no recurrence until three months ago, when in the lower end of the tibia there developed a Broadie abscess, which was opened and treated with maggots. The wound was healed perfectly in three weeks. During the course of treatment the patient was never confined to her bed.

Six months ago I was in consultation with the same physician, who feared that he had a case of anterior poliomyelitis. Inquiry revealed that eight days before I saw her, the patient had had a slight fall while at school, causing pain in the region of the right hip, but not sufficient to keep her from classes.

Three days after the fall, she developed a severe pain in the region of her right hip. I saw her six days after the onset of acute symptoms. At that time her temperature was 103, pulse 130, and leucocytes 40,000. There was inability to manipulate her right leg. She complained of a deep, boring pain in her right hip. Her right leg was held in a semi-flexed position. X-ray findings were negative. There was acute tenderness just below the epiphyseal line; localized heat was present but no redness or swelling could be discerned.

An incision was made over the proximal epiphysis of the right femur. The periosteum was opened, revealing a sub-periosteal abscess. A large window was made in the cancellous

part of the bone below the epiphyseal line. The wound was packed and a cast applied.

Three days later she developed a less severe pain on the opposite side in the same region. This was also explored. No pus was found under the periosteum, but a gimlet hole on the diaphyseal side of the epiphyseal line encountered pus. The left wound healed after a few days, but the right wound kept up a suppurating sinus.

After three months the suppurating sinus was opened, the old cloaca was enlarged and maggots were inserted; the sinus was closed perfectly in three weeks.

Acute osteomyelitis practically always occurs between the ages of two and fifteen years. Although it is near the joint, practically never is the joint involved. Hardly ever more than one epiphysis is involved at the same time, the pain being more severe than in acute articular rheumatism. Leucocytosis is higher and tenderness is always on the diaphyseal side of the epiphysis, accompanied by local heat.

Rheumatic fever almost always involves more than one joint. The pain is always in the joint itself, being accompanied by swelling; any movement of the joint gives rise to excruciating pain.

Occasionally a septic arthritis or acute cellulitis might make one think of osteomyelitis, but if the points enumerated are kept in mind the mistake will be avoided.

Osteomyelitis is commonly caused by the invasion of one of the pyogenic organisms, at least ninety per cent of the cases by the staphylococcus aureus. Other organisms, such as the streptococcus, staphylococcus albus, pneumococcus, and bacillus influenza may be the causative factors.

Acute osteomyelitis is a blood stream infection. The onset of the acute symptoms is generally preceded by some local infection. If due to a streptococcus a focal lesion of a mucous membrane, such as tonsillitis or sinusitis, is the source. If due to a staphylococcus, however, some local skin lesion, such as furuncle, impetigo, etc., is the origin. Following such focal infection a fair percentage of cases will give a history of some trauma.

About two or three days later this will be followed by a severe throbbing pain about the epiphysis of one of the long bones, accompanied by fever, leucocytosis, rapid pulse, general malaise, and acute tenderness on the diaphyseal side of the epiphysis. Local heat in the region of the epiphysis involved is a very important sign. This can readily be detected by palpitation. Such a condition in the absence of swelling of the joint makes the diagnosis of acute osteomyelitis certain.

I want to emphasize and underscore the fact that no one can make a positive diagnosis of acute osteomyelitis in the first ten days of its onset by means of the x-ray.

Acute hematogenous osteomyelitis is practically always a disease of childhood. This is due to the fact that ossification of the epiphysis takes place before or early in adult life. If there is any question as to the diagnosis, an incision should be made over the epiphysis on the diaphyseal side of the epiphyseal line and a hole drilled in the cancellous bone obliquely in the direction of the epiphyseal line, but not penetrating it. If pus is located, make a small window on the diaphyseal side and drain.

If this is done early, there will be no secondary reaction with the stripping of periosteum, formation of involucrum, sequestration of dead bone, the destruction of the larger part of the shaft, and formation of one or more cloaca. There is nothing more disabling, crippling, deforming, and distressing to the patient, or unsightly to friends, than neglected chronic osteomyelitis. These cases often extend from childhood to well advanced adult life, unless some degenerative process, as a result of chronic suppuration, involves one or more of the vital organs of the body and results in death of the patient. All sorts of diagnoses are made of these patients, from consumption of the bone to malignancy.

With intelligent use of the x-ray of today, however, faulty diagnosis in chronic osteomyelitis is inexcusable. Chronic osteomyelitis is either the result of neglected or maltreated acute osteomyelitis or traumatism, such as compound fractures. Medical literature is filled with the ways and means of the treatment of these cases. In the past few years it has been recognized by writers and workers in this field that a radical operation is essential. No more curettement of an old cloaca will cure chronic osteomyelitis. The sequestrum must be exposed and removed. There must be free opening and free drainage.

Just how the old cavity, which is left, should be disposed of, has been the point of contention. Numerous chemical antiseptics, such as carbolic acid and alcohol, bichloride of mercury, analin dyes, etc., have been tried, with more or less failure. Different kinds of operations on the bone itself, such as saucerizing and lathing, have been tried. In some instances surgeons have removed the sequestrum in the early stage of the disease before it has been separated from the involucrum. Although many surgeons advocate these methods, the majority still find them to be disappointing. Attempts have been made to fill up the dead space by means of bone chips, muscle flaps, folding in of the periosteum, etc., most of which are doomed to failure.

Dr. H. Winnett Orr devised a rather ingenious method of packing the cavity with petrolinized gauze, immobilizing with a cast and leaving untouched from three to six weeks, unless some septic condition intervened. This method has met with more or less success.

There is nothing that has been developed and given more excellent results than asepsis in surgery. It matters not what tissue of the body we invade, in this day, we feel secure in almost any operative field, due to ability to sterilize everything that comes in contact with the wound. By these means infection is reduced to a minimum, but in the treatment of wounds already infected the use of chemical antiseptics is more or less disappointing. Various chemical antiseptics have been tried, but when they come in contact with tissue already devitalized by infection, most of them have a tendency to precipitate with the albuminous material, which is always present, and form an inert protection to the bacteria. Others have a cauterizing effect on the tissues and destroy antibodies and phagocytes and new granulation tissues.

The Carrel-Dakin solution, which has been so widely used all over the world since the days of the War, depends on the liberation of chlorine in its nascent state. The chlorine in this state is highly bactericidal and has given good results in the treatment of selected septic wounds. It does not give the brilliant results in chronic osteomyelitis which it does in the treatment of some other conditions. One of the distressing things about it is the difficulty of immobilizing the limb in the presence of a wet dressing. Then, too, the changing of dressings every few days makes life intolerable to the patient, and the doctor as well.

I have been very much interested in the maggot treatment of osteomyelitis as developed by the late Dr. W. S. Baer, of Baltimore. In my experience there is no other form of treatment which compares with it. The hardest problem that we have had to face was the growth and maintenance of the proper stock of flies. We have been using the blue-bottle fly that we obtained from Dr. Baer's laboratory in Baltimore. These flies must be kept in well ventilated cages at a temperature between seventy and eighty degrees. They begin laying their eggs in about seven days and live only about three weeks. The eggs are laid in meat and collected the following morning. They are sterilized in one to two thousand bichloride of mercury in twenty-five per cent alcohol, and one per cent hydrochloric acid. They are left for one hour and transferred to sterile pig liver, which is kept in agar media, then incubated for twenty-four hours, cultured for anaerobic

and aerobic bacteria to be sure that the maggots are sterile. They are then transferred to sterile tubes until ready for use. The maggot has a gastrointestinal tract and can not be sterilized, but the egg can be made absolutely sterile.

Before using maggots in the wound it is essential that the diseased bone be thoroughly exposed, and any sequestrum removed that may be present, but no curetting is necessary. Maggots will not enter small cloaca or sinuses and clean out a bone cavity. The cavity must be thoroughly exposed and packed for the first two or three days with plain sterile gauze. Do not use iodoform or any chemical antiseptic. About the third day the gauze is removed and the cavity is filled with maggots. It is well to paint the skin surrounding the wound with collodion, so that, if any should escape, it would not annoy the patient by a crawling sensation.

The wound is then covered with a cage consisting of fine mesh wire, sewed to sanitas or hard rubber, and held in place by adhesive. This cage is not to be covered with any form of dressing, because the maggots must have oxygen as well as warmth. We have been covering the wound with a hood in which there is an electric bulb for the extra amount of heat. The maggots should be changed about every fourth day because they go into the pupa stage on the seventh day. At the time of the change the cage is removed, the wound irrigated with normal saline, and a new supply of maggots introduced. This is kept up until the wound is entirely healed, which is generally from three to five weeks. These patients have practically no pain. A great many of them are up and around, perfectly happy, and intensely interested in the treatment. I shall never forget the first little patient whom I had. She came under my observation one year prior to the time I gave her the maggot treatment. She was three years of age, a well nourished child of Polish descent. She had acute osteomyelitis of the right os calcis and lower end of the right fibula. Temperature was 104, pulse 130, leucocytes 25,000. There was marked tenderness over the lower end of the fibula and the heel. X-ray was negative.

An incision was made over the os calcis, and the periosteum was separated, revealing a sub-periosteal abscess. This abscess was packed with iodoform gauze. The lower end of right fibula was treated in the same manner. The patient's temperature gradually fell to normal. The dressings were changed every three or four days for a period of three weeks. The healing was fair. The patient went home but returned in three months with two suppurating sinuses. X-ray showed a great deal of necrosis in both os calcis and fibula. I advised a return to the hospital, but the mother and father told me that they had been advised by another physician that she had consumption of the bone and nothing more could be done for her; so I rested my case.

A friend of mine was visiting me, when I was called in to see a patient in this family. It occurred to me that I might use some psychology instead of technique. I told the foreign people that this man was a big doctor and knew of some medicine that he could send me, to pour into the wound, and that it would help her; then I forgot about it.

The next Saturday this poor woman was in my office inquiring about the medicine. This occurred for four successive weeks, and finally I was compelled to go in search of the big doctor, whom you have known, Dr. W. S. Baer, of Baltimore. I found him to be extremely courteous, kind, anxious to help me in my new quest. He had on hand at that time seventy-five cases under treatment in the various hospitals of Baltimore.

I observed his process of sterilization, growth and complete development of his technique, noted just how he handled these cases, the kind of cases treated, and the results. I came back to Wheeling with a stock of flies, developed the technique, operated on the little girl, and gave her the maggot treatment. She became so interested in the mag-

gots that her doctor completely regained her affections and the wounds were healed perfectly within three weeks' time, and have remained so.

Since that time I have had a variety of cases—including two of tuberculosis of the bone; one, tuberculosis of the sternum (in a patient suffering from pulmonary tuberculosis); and one case involving the ischium, in which it was necessary to use maggots only three times.

I had a case of chronic ulcer of four years' duration, following compound fracture of the tibia in which all forms of treatment had been tried. In a case of osteomyelitis of the upper end of femur it was necessary to insert maggots only four times, and in an old osteomyelitis of the lower end of the tibia only three applications. Osteomyelitis of metacarpal bones that had resisted treatment for six months has healed perfectly in four weeks.

Just what these maggots do, besides cleaning up the débris and aiding in separation of the sequestrum, no one has been able to say. As Dr. Baer had suggested, there must be some enzyme secreted or formed as a result of their contact with the body.

This, we do know, the maggot treatment absolutely shortens the period of convalescence, because granulation tissue is always healthy even in the presence of tuberculosis, and we do not get the contraction of the scar as in the other forms of treatment. The results of this treatment are positive and certain. I have not seen a single failure.

In conclusion, just a word in regard to osteomyelitis following trauma, especially in compound fractures. In military life this is the common cause of most of the cases of osteomyelitis.

Dr. W. S. Baer, who had charge of the Orthopedic work during the World War, began his investigations after he had observed two such cases left on the battle-field of France without food or water for six days. Their wounds were filled with maggots and healed much better than the cases which had been hospitalized with all the advantages of aseptic and antiseptic surgery.

In civil life, however, if compound fractures are treated by the de Bridement method, and the adjustment and fixation of the fragments are treated as simple fractures, osteomyelitis is very unusual. Occasionally, these cases fall into the hands of men who are not so equipped that they can carry out such a method; or even in the best of hands in well regulated hospitals a wound that is already infected in the accident will remain so in spite of any method that may be used.

I have two such cases under my care at the present time. One had been plated several weeks after a compound fracture, and the other banded. Both wounds broke down with exposure of the fragments, plate and band. As soon as this occurred maggots were inserted into the wounds. Six weeks have elapsed in the case in which the plate had been used. The wound is now closed and the x-ray shows healthy callus. The other case, which was banded, had had only one insertion of maggots, but I feel sure the result will be the same.

I could not close this paper without expressing my sincerest appreciation to one who has made it possible for me to develop this line of treatment, Sister Xavier, the superintendent of the Wheeling Hospital; also, Dr. W. T. McLure, pathologist; Mr. John D. Campbell, technician; and Mr. Harry Henderson, assistant, for their aid and coöperation in this most interesting field of service.

VOICE EXPRESSION

The voice carries much expression. We all know persons whose voices are harsh and gruff, squeaky and falsetto, or soft and mellow.

Have you ever considered the effect your voice may have on other persons, and particularly on your child who is developing voice habits? A tiny baby is able to tell whether his mother is scolding him or speaking gently. "The Secret of a Pleasing Voice" in *Hygeia*, the Health Magazine, stimulates a new train of thought.

INFECTIONS OF THEPETROUS PYRAMID *

By Clarence H. Smith, M.D., F.A.C.S.
New York City

During the past twelve months considerable interest has been displayed in the study of infections of the petrous pyramid, and, as a result of concentration on this subject, and from the reports of those who have been especially interested in its problems, much light has been thrown on what has been heretofore a dark corner in our specialty. It is my purpose today to endeavor to present a résumé of what we knew previously and the additional facts which have been gleaned in this period I have alluded to, together with the histories of a few cases I have met with in my own experience.

There is no doubt that many cases of petrous pyramid infection have terminated in fulminating meningitis without the specific origin of the foregoing symptoms being suspected. These symptoms are, taken singly, not very conclusive, but, when studied collectively, the diagnosis of the location of the lesion is quite as credible as many others.

Nor are these cases as extremely rare as we were once led to believe. It was formerly thought that the characteristic picture known as Gradenigo's syndrome was seen not more than once on the average, during a busy otologists lifetime. Whether it is that we are now more on the alert, or that this particular site is attacked oftener, we know that this entity must never be lost sight of, and the more we understand its possibilities, the more often can its relationship be traced in our puzzling cases.

Osteitis of the petrous pyramid may be suspected when a patient with a suppurating otitis media or mastoiditis presents the symptoms of severe trigeminal pain and a paresis or paralysis of the abducens nerve. There are many modifications and elaborations to submit to this simple statement before we are through with the subject.

There are certain anatomical facts we must rehearse as a preliminary. In the well pneumatized or in the over pneumatized temporal bone, there are commonly large pneumatic cells in the petrous pyramid, these cells communicate with the antrum and the tympanic cavity by various channels.

The fifth nerve's sensory root, known as the Gasserian ganglion, lies in a depression on the upper surface of the petrous pyramid, and there subdivides into three branches, the ophthalmic, the superior maxillary, and the inferior maxillary. Eagleton draws attention to the fact that the ophthalmic branch is the longest, is the only branch of the three which is bound down and is thus most liable to tension from change in the position of the ganglion.

The abducens nerve after leaving the pons runs upward and outward to pierce the dura over the sphenoid bone. It then passes between the apex of the petrous pyramid and the posterior clinoid process. The space between these two structures is covered over by the petro-sphenoidal ligament. The superior petrosal sinus accompanies the sixth nerve in this space, which is known as Dorello's canal.

The internal carotid artery enters the carotid canal in the petrous bone, thence to the medium lacerated foramen into the cranial cavity, where it curves upward, then forward, lying in the carotid sulcus of the sphenoid bone on the inner wall of the cavernous sinus. Sometimes there are bony dehiscences in the carotid canal, the carotica tympanica foramina, for passage of carotid branches of the tympanic plexus. It is behind and internal to the eustachian tube.

Most of the authorities believe that the majority of infections of the petrous pyramid

* Presented before the Eye, Ear, Nose, and Throat section at Clarksburg on May 20, 1931.

are from direct extension through the cells. Perkins,[1] in 1910, gave four possible routes; Friesner and Druss[2] recently summarized the various pathways. The simplest classification is that of Profant,[3] where he describes two routes. "1. The antrum-tympanic route: the cells extend from the antrum and epitympanic space above the cochlea, and above and behind the superior semicircular canal, then behind, above and in front of the internal auditory meatus, and finally to the mass of cells under the tegmen of the anterior surface of the tip. 2. The hypo-tympanic route: the cells extend from the hypo-tympanic space below the cochlea, then below the internal auditory meatus, and finally to the mass of cells under the tegmen of the posterior surface of the tip."

Eagleton[4] thinks that the petrous apex is not a pneumatic but a marrow containing bone similar to the active growing end of the long bones, that the pathological condition is osteomyelitis and that it is exceptional for pneumatic cells to fill the apex. It is his opinion that the invasion is by way of the blood stream, the usual method in osteomyelitis. Kopetzky[5] believes that there are frank suppurations of the pyramid and, more rarely, osteomyelitis, the latter occurring in diploetic rather than pneumatized bone.

As to the pathological conditions found in infections of the petrous pyramid, it may be found full of pus and granulation tissue, a break in the cortex may be present, with an extra-dural abscess and consequent infection of the dura resulting in meningitis, local or diffuse, or in an intradural abscess or a temporal lobe abscess or cerebellar abscess. Friesner and Druss in sections in their cases found definitely peri-ganglionitis and ganglionitis of the fifth and sixth nerves. Eagleton thinks that the amount of pus is generally small and that one may expect a cavity filled with granulations and that the granulations are those of osteomyelitis and are characteristic in that "they are overgrown, poorly nourished edematous masses which when cut do not bleed as freely as normal granulations" and are very different from the granulation tissue found in suppurative mastoiditis.

Symptoms. Neuralgic pain: This is the most constant symptom met with. It is always on the side of the lesion. While the whole of the fifth nerve may be involved, the ophthalmic division is generally the branch which is irritated. Eagleton explains the pain as caused by inflammatory reaction of the dura overlying the diseased petrous tip and petro-sphenoidal articulation. The location of the pain is generally the region around the eye. It is often deep-seated, and is apt to be constant rather than spasmodic. Its degree varies from slight to excruciating. Friesner calls attention to its usually preceding the paralysis of the abducens and to its more early departure than the eye symptoms after operation. He thinks the persistence of the pain or the recurrence of it after a temporary recession, a poor prognostic indication. In cases 2 and 3 of my own, the pain, while severe, was marked by recessions, which seemed to be caused by the relief of pressure by a sudden increase of the purulent ear discharge which had for the time abated. In case 3 where an extradural abscess was found on operation, it seemed as if this abscess filled up, caused the neuralgic pain by direct pressure upon the Gasserian ganglion and by emptying itself through its exit in the epitympanum, thus relieved the pain.

Symptoms from Involvement of Sixth Nerve. When this nerve is involved in infections of the petrous pyramid, it may manifest itself only as a paresis, but usually a paralysis is present. This is caused by pressure on the nerve as it dips under the petrosphenoidal ligament in Dorello's canal, and this pressure is easily manifested during the stage of localized meningitis at the tip of the pyramid, by the swelling and presence of the associated edema. Sears says this paralysis may be isolated, combined, bilateral, homolateral or contralateral. In 124 cases collected by him it was contralateral fourteen times and bi-

lateral six times. He stresses the asymmetry in the size of Dorello's canal, as determined by its bony margin, as being a very important factor in the involvement of the nerve, and as being the explanation of the paralysis being contra-lateral, as in these cases the smaller and thus more vulnerable canal is pressed on by the edema and the larger canal with its nerve escapes.

There are many causes for the paralysis of the sixth nerve besides the one we are considering. In ninety-five case reports studied by Perkins, the cause was given in thirty-three and is as follows: sinus thrombosis in two, meningitis in three, labyrinthitis in four, abscess in the posterior fossa in nine, abscess in the middle fossa in two, and petrositis in thirteen.

Kopetzky does not consider involvement of the abducens a constant symptom of petrositis, and thinks it should not be looked upon as a necessary factor in the establishment of a diagnosis of petrous tip purulency. He reports that it was not involved in any of his nine cases and calls attention to the fact that Uffenrode found an abducens palsy in only two of his seven cases, that Lange's two cases had no abducens palsy, that Gattich cites a case of sequestration of the entire pyramid without abducens paralysis and that Eagleton has reported two cases of caries of the petrous pyramid without external rectus involvement. Friesner tells us apropos of his remark that the sixth nerve is not always involved, of Perkins' statement that he encountered epidural abscess in the region of the apex without any apparent effect on the sixth nerve.

Discharge from the Ear. In my experience in most cases, the middle ear has ceased discharging on the fifth day after a mastoidectomy, and the mastoid ceases discharging within another week or so. In cases of infection of the petrous pyramid the aural discharge is often profuse and continues until the lesion undergoes resolution or until it has been relieved surgically. Sometimes this profuse discharge supervenes in a case which has been quiescent and where the ear had ceased discharging. In performing the radical mastoid operation on these patients the source of this discharge is sometimes found to be a sinus from the antrum tympanic area, as in case 3 of mine, or from the hypotympanic area as in a case of Bowers, or from the peri-tubal cells in cases reported by Shambaugh, by Friesner, and by others; in all of these cases the mastoid operative cavity may be quite healthy. An ear with a persistent profuse discharge, possibly intermittent in character, accompanied by pain from irritation of the fifth nerve, after a complete mastoidectomy, should suggest an infection of the petrous pyramid as the factor in the background.

Low Grade Fever. This was present in two of my cases, normal temperature in the morning and an elevation of about a degree in the evening was characteristic. This fever did not abate until the suppurative process was arrested. The presence of this symptom with those just enumerated, is strong corroborative evidence of petrositis. Eagleton considers this low grade sepsis as important a diagnostic factor as the eye pain.

Facial paresis was noted by Kopetzky in two of his nine cases, it was transient, of the infranuclear type. He thinks it suggests an infection through the cells leading from the mesial wall of the antrum.

Vomiting was an outstanding symptom in one of my cases, number 2. It was not projectile and a cause for it was not discovered. It lasted through several weeks of the illness.

The x-ray has been found valuable by some observers in showing an over-pneumatized petrous tip, blurring of the cells and destruction of the cell walls.

Course of the Disease and Prognosis. A patient with an acute suppurative inflammation of the ear is attacked with severe neuralgic pain which can be located as coming from the fifth nerve and very often the ophthalmic branch, the eye on that side develops a paresis

or paralysis of the sixth nerve. If symptoms of mastoiditis are present a complete mastoidectomy is done, and very often the head pain and eye symptoms clear up. This would seem to be a mild inflammation of the petrous pyramid which was capable of draining and resolution. If now, we go a step farther, and suppose the patient does not improve after mastoidectomy, the aural discharge, the head pain and the eye symptoms persist, there is added a low grade of sepsis; there, after a time, appear symptoms of a localized meningitis, further revision of the mastoid cavity and exploration reveal the presence of an extra dural abscess, which, when drained, permits the patient to go on to recovery. This means that the caries in the petrous pyramid cells finally erodes its way through the cortex and discharges its pus over one of the two surfaces of the pyramid.

Or suppose this abscess is not discovered and the contents finally disseminates itself over the neighboring meninges or penetrates the dura, a generalized lepto-meningitis is caused with death of the patient.

As to prognosis, I do not think it is possible to give figures with any definiteness on the lesion of petrous pyramid infection, *per se*, because the triad of symptoms comprising Gradenigo's syndrome, Gasserian ganglion pain, abducens paralysis in a patient with a suppurating ear, occur in other conditions than petrositis, such as involvement of the superior petrosal in lateral sinus thrombosis. We can get an approximate idea, however, in the figures of Gradenigo on cases with his syndrome as eight per cent mortality, Perkins eleven per cent, Baldinweck sixteen per cent.

As to the methods of treatment for petrositis, it is fortunate for us that conservative measures are often sufficient. By this I mean a thorough mastoidectomy in a case of mastoiditis presenting abducens palsy or Gasserian ganglion pain, paying particular attention to the cells in the zygoma and the cancellous structure around the antrum. If this procedure is insufficient and the pain and palsy persist, the aural discharge being profuse, perhaps intermittently so, accompanied by a low grade sepsis, with an increase in the leucocyte count, and some symptoms of meningitic involvement, we will be forced to proceed more radically in our effort to save the patient. A radical mastoid operation should be performed, laying open the tympanic cavity and enabling us to search for a sinus leading from the pyramid either through the antrum tympanic route or the hypotympanic. If this is found the sinus could be cautiously enlarged and drained. Sometimes we are enabled to locate an infradural abscess lying on the surface of the pyramid, drainage of which will be sufficient to help the patient toward recovery.

At the January meeting of the Section of Otology of the New York Academy of Medicine, Kopetzky and Almour presented the latter's method for opening the petrous pyramid. It consisted of a trephine opening by a small electrically driven burr driven into the petrous pyramid through the superior anterior angle of the inner wall of the tympanic cavity, above the Eustachian tube and carotid artery and in front of the cochlea and the facial nerve. In the March number of the *Archives of Otolaryngology*, Eagleton describes his method of unlocking the petrous pyramid. This calls for an extensive removal of the anterior buttress consisting of the zygomatic root forward to the articulation of the mandible, together with the tegmen of the tympanum, the tegmen antri and the tegmen cellulæ, enabling a free elevation of the dura covering the floor of the middle fossa, and an inspection of the anterior surface of the petrous pyramid. He also removes the posterior buttress, sufficient bone from the mastoid and superior petrosal regions to permit reflection of the sigmoid sinus slightly backward, giving an exposure to the bone of the posterior surface of the petrous pyramid.

REPORTS OF CASES

CASE 1. Norman B., 15 years of age, had a left sided mastoidectomy on June 13, 1922. This was an over pneumatized mas-

toid process, the cells being large and extending in all directions. The right ear had a severe middle ear inflammation, but conservative treatment was continued on it. As this patient was in a hospital over a hundred miles from New York City, I did not see the boy again for two weeks. On June 28 I was called to see him on behalf of the right ear. Then he showed a paralysis of the right abducens nerve, complained of double vision, and of severe frontal pain on the right side, with decided symptoms of mastoiditis. A mastoidectomy was done on this on that day. The same over pneumatized variety of process was found. The boy's pain subsided in a fortnight. The abducens paralysis took several weeks longer to clear up, but he eventually went on to complete recovery.

Comment: This was, without doubt, a case of petrositis, from the overpneumatized type of mastoid, the neuralgic pain and the sixth nerve involvement. That it was mild in severity was evidenced by the fact that a thorough and complete mastoidectomy enabled the patient to go on to prompt recovery.

CASE 2. Regina A., 14 years of age, had a right-sided secondary mastoid operation performed on April 27, 1927. One of her symptoms was frontal pain over the right eye. She was permitted to leave the hospital on May 1, but was re-admitted on May 17, complaining of the same pain, more intensified, and of double vision. At that time she showed a paralysis of the right external rectus muscle. She was kept in the hospital until July 19. Her frontal pain lasted for seven weeks. Her eye symptoms lasted for four months. Her temperature during her hospital stay rarely exceeded 100 degrees. There was a thick greenish discharge from her mastoid wound, which was kept open long after the middle ear became dry, and until the amount was very small and the pain ceased. Daily blood counts were taken and the leucocytes kept within normal range during all this time. An additional symptom which troubled this patient considerably all through her hospitalization was vomiting, which could not be accounted for by any gastric or intestinal pathology. Eventually, however, her recovery was complete.

Comment: This was a case of petrous pyramid infection of a more severe type, as shown by the protracted period of convalescence after the mastoid had been thoroughly exenterated. The fact that this patient and the patient in the next case report had had mastoid operations years previously and that these symptoms of petrositis occurred with secondary infection of their mastoids, suggests the possibility that the petrous cells may have been involved at the first infection, the process subsiding, and that the lighting up of the petrositis from an acute middle ear may sometimes be the cause of a secondary mastoiditis.

CASE 3. Thomas R., 10 years old, was seen on March 7, 1930, with an inflammation around the scar of a right simple mastoid operation, which the writer had performed eight years previously. Three days later this scar was reopened at the lower angle, and the mastoid cavity was drained. This simple procedure not proving sufficient, on March 22, a secondary mastoid operation was performed. While in the hospital after this was done, the boy complained of severe right frontal pain, paroxysmal in character. At first the attacks of pain were about six hours apart, gradually the interval became shorter. An effort to relieve his pain by the use of sedatives was made.

Ten days after the second mastoid operation his pain was increasing, and he began to complain of double vision with the right eye. He did not show strabismus. His temperature range for the next week did not exceed 100 degrees. At the solicitation of the mother, and on her promise to keep the child in bed, he was allowed to leave the hospital on April 7.

In the middle of May, seven weeks after his secondary mastoid operation, his pain assumed intolerable proportions; he was so much distressed by the paroxysms that dur-

ing them he became irrational, at these times rolling on the floor and suffering extreme agony. So, on May 13, he was again returned to the hospital, where the following operation was performed:

The simple mastoid operation was converted into a radical mastoid operation. When this was completed a careful inspection of the cavity was made, revealing the presence of two small sinuses in the aditus floor, directly above the horizontal semicircular canal. A probe inserted in these met with soft non-resistant tissue. The bone forming the tegmen antri and tegmen tympani was removed down to a line parallel with these sinuses. The brain present in this bone-denuded area was then elevated from the floor of the middle fossa, a dressing forceps was inserted in a downward, forward and inward direction, hugging the anterior surface of the petrous portion of the temporal bone. At a distance a little more than an inch, the forceps entered a cavity containing pus which ran out along the blades of the instrument, the quantity seemingly being about two drachms. A small sized rubber catheter was then placed in the wound in the course of the instrument referred to. This drain was sewn in situ and left for two weeks, then removed. After the pus was liberated at this second operation, the pain subsided, soon disappearing completely, and double vision was not again noticed. The wound had some plastic work done on it on July 1, and it then went on to satisfactory healing.

It was apparent that the small sinuses noted in the aditus were the avenues of exit for this pus, which was from an epi-dural abscess in the location of the apex of the petrous pyramid, which, by its pressure on the Gasserian ganglion and the sixth nerve, produced the symptoms of pain and double vision.

CASE 4. Francis H. B., aged 24, was admitted to my service at the Post Graduate Hospital, October 29, 1930. He had double chronic purulent otitis media, the left ear having discharged fourteen years; the right, three years.

He complained of having had severe pain in the left ear and the occipital region for the past five days, dizziness, vomiting, daily chills and high fever, marked decrease in hearing in the left ear, and double vision with the left eye. On admission to the hospital his temperature was 106 degrees. On examination there was found a profuse purulent discharge on the left side, a mucoid discharge on the right. Both ear drums were almost completely gone and the middle ear seemed full of granulations. Hearing on the left side was limited to a shout, on the right side it was considerably better. There was slight tenderness over the left mastoid. A spontaneous nystagmus to the left was noted, no strabismus and no meningitic symptoms.

A radical mastoid operation on the left side was promptly performed. It was found that the roof of the tympanum and of the mastoid was badly necrosed, with an exposure of the dura. This necrotic bone was cleared away, leaving a wide exposure of dura. The organisms from the wound proved to be the streptococcus hemolyticus and the bacillus proteus.

After this operation his temperature dropped and thereafter, during the course of his illness, at no time went higher than 102 degrees. His condition was at first fairly comfortable, all of his symptoms improving, his ability to sleep returned; however, the occipital pain and diplopia persisted. This pain at first was not severe, but gradually it became so; and by the seventh post-operative day it was so violent that he had to be kept continually under the influence of sedatives.

During this interval he was carefully watched, his eyes were examined and nothing abnormal was found; the neurological examination showed no evidence of brain abscess or of meningitis.

The symptom of frequent vomiting was now added, and the occipital pain became so severe that the patient at times became irrational from it.

On November 7, the ninth post-operative day, I determined to open his wound and

explore the adjacent area in an endeavor to relieve his symptoms. In view of the persistent diplopia and of his severe occipital pain, I thought it possible that there might be a collection of pus in the region of the apex of the petrous pyramid. He was again brought to the operating room, his wound was reopened, the brain was elevated from the superior surface of the petrous pyramid, a blunt instrument was passed along the bone in the direction of the apex, and an abscess was opened, liberating about 30 c.c. of foul smelling pus. A rubber tubing drain was then placed in this area and sewed in situ. This operation was completed at 3:45 in the afternoon. I saw the patient about five o'clock, and he had by that time reacted and was feeling relieved of pain. The house surgeon saw him that evening at nine o'clock, when his condition was apparently satisfactory. Alarming symptoms ensued, however, at midnight, and he suddenly expired, apparently from an embolus. No autopsy, unfortunately, was obtained.

Conclusions

1. That infections of the petrous pyramid are not as rare as we have believed.
2. That cases of unexplainable meningitis with fatal termination, which are seen occasionally, may originate with petrositis.
3. That a fairly positive diagnosis of osteitis of the petrous pyramid can be made from the history, signs, and symptoms.
4. That with prompt and thorough surgical measures the prognosis in a great many cases of petrositis is good.
5. That in cases where drainage is apparently insufficient one is justified in sacrificing the ear in an effort to attain this end.
6. That where that effort fails there is need for a method of surgical approach into the pyramid which will be within the reach of all of us.

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Discussion

Dr. O. H. Bobbitt, Charleston: During the last few years we have read much about this comparatively new field of surgery, but have had little to do with it. I have not seen a case of Gradenigo's syndrome in private practice in nine years, yet I have seen and done many mastoidectomies.

The temporal bone is perhaps the most important bone in the body, because it houses some of the most delicate and important structures in the make-up of our body machine. We may know the anatomy of the temporal bone ever so well, yet without much training and work on the cadaver we would be at sea when it came to the point where the petrous pyramid had to be dealt with. It is fortunate that the cases that show irritation of the fifth nerve or one of its branches recover after a complete simple or radical mastoid operation.

At this time let me say that it is very important to know in every case of middle ear infection the type of infection we are dealing with. If it be a stretococcus or pneumococcus mucosa capsulatus type III, there may be a rapid destruction of tissue, and if the pneumococcus mucosa is the infecting organism there may be a rapid destruction without pain over the mastoid.

If the infection is mixed or the staphylococcus is found, there is no reason to rush the patient to the hospital for an operation, even though the x-ray does show cloudiness in the cells, as the patient may, and usually does, recover.

To try to prevent petrous infections by early and careful incision of the tympanic membrane, and determine the type of infection, would be a step in the right direction. We, no doubt, see cases of meningitis and take for granted that they come

from some other source when the pyramid may be responsible, in view of the fact that sixth nerve paralysis is by no means a constant symptom, and fifth nerve pain comes from sources other than the infection in the pyramid.

I am sure we have enjoyed the case reports given by Dr. Smith, and they are quite similar to other writer's reports in this new field. As for the operation in this field, it is one of magnitude, and many vital structures lie across one's path. The structure of the pyramid is said to be treacherous, due to its make-up, and fractures in a manner which is incalculable.

Situations arise to make judgment difficult in the absence of experience. Enough is known to make us feel a sense of pride in the fact that it is the otologist who is called upon to perform what is undoubtedly the most highly technical, and most difficult operation in all surgery.

DR. E. C. HARTMAN, Parkersburg: Using a familiar expression, "All I know about petrositis is just what I see in the papers." Dr. Smith has given an excellent résumé of the subject and his case reports are very interesting and instructive.

Egleton, Friesner, Druss, Kopetzky, Almour, Turner, Reynolds, and Bigler are the principal writers of late on the subject.

A thorough knowledge of the anatomy of the parts affected, especially the avenues of infection of the apex, is absolutely essential in the diagnosis and treatment of this condition.

It seems to be a fact that infection of the pyramid is found in mastoids showing extensive pneumatization. The pain is also rather characteristic—along the ophthalmic branch, principally within the orbit and worse at night. A paralysis of the sixth cranial nerve is not always a constant symptom found, as was once thought by Grandenigo; on the other hand, an involvement of the facial may be seen.

I have been fortunate in having two cases, one mild and one severe. The mild case—girl, Gertrude T., age 14, referred by Dr. Ahlborn of Marietta, Ohio; history of acute suppuration left ear for four weeks, followed by paralysis of the sixth nerve, two weeks later with pain in left eye. On examination the patient showed the following: Left convergent squint, empyema of left antrum, slight ear discharge (muco-purulent), fairly large perforation posterior inferior quadrant, x-ray showed slight haziness of part of cells but no obliteration of outlines, no swelling or tenderness, temperature 99.2 degrees.

Patient was admitted to hospital, left antrum was punctured, irrigated and rasped, and ice bag applied to left mastoid region. After fourth day all temperature had ceased and mastoidectomy was not deemed necessary; patient returned home feeling much better and ear discharge had ceased with no change in paralysis. Was seen last about six weeks later. At that time the squint had about entirely disappeared and she had no return of pain or ear discharge.

The second case—boy, Harold K., age 17, was admitted to the hospital March 12, 1931, with an acute mastoid of approximate three weeks' duration. He was suffering considerably with pain in and around his left eye, temperature 102 degrees. There was slight swelling over the mastoid region but no fluctuation. There was an abundance of purulent discharge, a smear from which showed streptocci; x-ray showed cloudiness throughout all the cells with obliteration of the outline and extensive pneumatization.

On March 13 a simple mastoidectomy was performed; there was extensive involvement of all the cells; the tip was removed, lateral sinus was not exposed. Patient seemed to make a fairly good recovery following operation but continued to run a low grade temperature and pain in and around the left orbit was relieved only partially.

Patient was discharged from the hospital on the sixth day, but four days later the pain became so severe he was readmitted and a spinal puncture done, which was negative. At that time he complained of numbness of the right leg and was having a slight aphasia, temperature was 99.6 degrees, fundi negative.

A tentative diagnosis of abscess of the temporo-sphenoidal lobe was made and patient was operated on March 24, the old mastoid wound being reopened, part of squama removed and dura elevated down to region of tip which showed no pus extradurally. Exploration of the temporo-sphenoidal area by small trocar and cannula revealed the presence of an abscess which contained about one ounce of thick greenish pus. Rubber drainage tube was inserted and left in situ for nine days. Patient made an uneventful recovery. He was seen about two weeks ago, had gained about fifteen pounds and was feeling fine. He had had no pain or ear discharge since.

I am sure this infection was due to an extension to the tip of the pyramid due to extensive pneumatization and a rupture through the dura causing the abscess.

THE OPHTHALMOSCOPE AND THE GENERAL PRACTITIONER *

By V. T. CHURCHMAN, SR., M.D., F.A.C.S.
Charleston, W. Va.

AFTER starting my paper, I read an article in THE WEST VIRGINIA MEDICAL JOURNAL by my good friend Dr. Harry M. Hall, on *The General Practitioner*, which has caused me to Stop, Look, Listen, and Wonder. I have been wondering if there were not more truth than fiction in Dr. Hall's paper.

I wonder if we, who have limited our practice to some special line of work, have been giving the general practitioner a fair show for his "White Alley" in this great medical struggle for an existence. We should only be his allies, in this battle to combat man's great army of enemies, marshalled together under the battle flag of "Disease."

All successful armies are made up of many divisions, such as infantry, cavalry, artillery, marines, engineers, and the Lord knows what all. Thus must the army of Successful Medicine be made up of all special divisions, that we may combat the enemy from all sides, and in all ways; but each division of this great army of the healing art must of necessity be under the guidance of a general commander, and reason teaches us he must be a man fitted for this great job. Who but the general practitioner is fitted to command?

He must be the "commander-in-chief," and when we go forth to do battle, it is our duty to be amenable to him and his orders in all things. He must be the fountain-head, and to him must we look for support in whatever we may do, and it must be to him all reports should be made in our paths of duty in this great struggle of physician versus disease.

In my thirty nine years as one who has limited his practice to a special line, I have learned, more and more, to rely upon the general practitioner for his aid and guidance. It is therefore to him I shall make my report of the aid of the ophthalmoscope in medicine.

In thinking over the subject of this paper, I find there are several questions which may cause me to digress from the main subject for a short time in order that I may bring the text more forcibly to your attention, and for this digression I must beg your indulgence.

I shall not go into the history of the ophthalmoscope; for if this is not familiar to you, you may easily look up the interesting points at any time. Nor shall I advise the use of any particular instrument, but will advise you to stick to the type that best suits your personal taste and abiliy to use, if you wish proficiency in your work.

I shall endeavor to show you why each general practitioner of medicine should familiarize himself with the use of this valuable instrument. Allow me just here to say the eye is the only place in the human body where the circulation may be studied by a direct view and this is only possible by the use of the ophthalmoscope.

I shall just speak of the use of the ophthalmoscope in a general way and shall then take up some specific instances where a general diagnosis may be made before there are any general symptoms. You can readily see the advantages of this in this day of preventive medicine.

First allow me to speak of the many cases of headaches who consult their family physician who will order some form of powder, pill, or capsule, to relieve the pain and after weeks of undue suffering and discontent the physician advises them to consult an ophthalmologist who finds a refractive error, which, when corrected, immediately relieves the long standing headache, whereas if this physician had been familiar with the use of the ophthalmoscope he could have discovered this

* Presented before the West Virginia State Medical Association at Clarksburg on May 20, 1931.

error at the patient's first visit and immediately referred him or her to an oculist for correction of such error.

How often is an iritis diagnosed as simple conjunctivitis, when by the use of the ophthalmoscope with a plus 4 dioptre lens it is so often easy to see the difference in color of the iris, see the swelling of the iris, and the attachment to the anterior capsule of the lens, making the diagnosis easy.

Again a patient may be suffering with a supraorbital pain, the eye inflamed, diagnosed as a simple case of supraorbital neuralgia, when the ophthalmoscope would show a cupping of the optic disc, due to glaucoma.

Not long ago, I saw a case diagnosed as beginning cataract who had been told that the cataract would have to "ripen" and the patient become blind before an operation could be done. A careful ophthalmoscopic examination showed a retino-choroiditis due to focal infection of the teeth and tonsils. These were removed and the eye was much improved, but, of course, there was no restoration of vision where the choroid and retina were destroyed.

Not long since, a man came into our offices giving a history of having been struck in the eye by something; but it could not be found —the eye was much inflamed and an ophthalmoscopic examination revealed a foreign body in the retina. With the use of an eye magnet and a small incision through the sclera, the foreign body, a piece of steel, was removed and his acuity of vision became normal and has remained so—but for the use of this valuable instrument this eye would have gone on to panophthalmitis and loss of the eye.

Many cases of minute particles in the cornea can be detected by use of the ophthalmoscope, when to the physician's eye, all looks normal.

I have made it an almost invariable rule in all cases of bad tonsils in adults to question about the vision and to use the ophthalmoscope, fearing some latent choroidal or retinal disturbance.

I shall now speak of some of the general disturbances that may be detected in the eye with the ophthalmoscope. Chronic albuminuria—in these cases the general condition is not often suspected; but there is a peculiar retinal disturbance which I have often illustrated by the expression of "throwing an egg against a red brick wall." This condition is pathognomonic of albuminuria, and a case once seen is never forgotten. I have seen many of these cases where albuminuria was not suspected at all and, in a few cases, where it was only with the greatest care that albumin could be detected in the urine.

Chronic Diabetes. It is well in all cases of visual disturbances, such as "cloudiness" which the patient speaks of as a "fog," to examine carefully the lens of the eye with the ophthalmoscope, and if a spot is found denoting the beginning of cataract, a urinalysis should be made for the presence of sugar, as this often is the cause of cataracts. There is also a peculiar edematous condition of the retina, which is significant of diabetes.

Those who have become accustomed to the use of the ophthalmoscope and use it, know how it is possible to almost make a positive diagnosis of tuberculosis when we find the peculiar bluish tubercle in the choroid. On several occasions I have found the tubercles when there was no idea of any tubercular condition.

There are conditions of the retina and choroid which should at once put us on our guard as the possibility of syphilis.

The peculiar condition known as choked disk is pathognomonic of intracranial pressure, and how often does the ophthalmologist find a beginning optic neuritis, without any previous history of trouble.

Again I have seen cases of primary optic nerve atrophy where I could obtain no history of any cause and yet have seen these cases progress until there had developed a typical case of tabes.

In this day of adulterated alcohol, sold as whiskey to the gullible public, it is often mixed

with methyl alcohol. In these cases of poisoning it will be found that the edges of the optic disc are blurred, or there may even be atrophy without any signs of preceding inflammation.

In cases or cerebro-spinal meningitis you will find almost fifty per cent will have some abnormal eye condition. But as my paper has reference only to the ophthalmoscopic changes I will limit my remarks to the use of the ophthalmoscope. Physicians should make it a part of their routine practice to examine the eyegrounds in all these cases. About fifteen to twenty per cent of these cases will show an engorgement of all retinal veins with hyperemia of retina and disc. Some few will show a decided papillitis and a greater number will show an irido-choroiditis.

I might go on *ad infinitum* showing the many conditions which may be present in the eye-grounds that would assist the general practitioner if he would only make himself familiar with the use of the ophthalmoscope, as I consider it one of the greatest aids to a general diagnosis.

I have not gone into any detail of conditions found with this instrument, as I do not consider it essential in a paper of this kind.

If I have succeeded in making the average physician realize that he is overlooking a great opportunity and that in the future he will avail himself of this valuable aid I will feel that my effort has not been in vain.

Discussion

DR. HARRY M. HALL, Wheeling (deceased): We had no course in the ophthalmoscope when I went to medical college and I was taught nothing about it during two years of interneship. Consequently when the subject of ophthalmoscope comes up I turn to the eye men in Wheeling. I think most of us do the same thing. That is the reason I think the eye work done in West Virginia is of the very highest order.

I may be wrong, but it is my opinion that the eye men who do use the ophthalmoscope do not expect to learn it altogether. On the other hand, many of the younger men just out of college are very good with the ophthalmoscope, although general practitioners. I think, therefore, that there should be the utmost coöperation and understanding between the eye men and the general practitioners. The important thing is for the men in general practice to know when to use the ophthalmoscope and when to leave it alone.

DR. IVAN FAWCETT, Wheeling: As Dr. Churchman has expressed so beautifully in regard to the science of ophthalmoscopy, the eye is the only place in the human body where one can look in and see the circulation, and from that source we derive valuable aid in constitutional diseases, such as syphilis, focal infection, and nephritis.

The value of this adjunct to diagnosis has long been appreciated by the general man and the fact that the ophthalmoscope has not come into general use requires an explanation. I think Dr. Hall expressed it when he stated that he had considerable difficulty in making the examination and, in interpreting the findings, more difficulty yet. If it is to become universally adopted its uses will have to be taught in the medical schools and followed up during hospital interneship as has been done, and is now being done in a great many centers.

I agree with Dr. Churchman that every man could use the ophthalmoscope to great advantage as a magnifying instrument in the diagnosis of iritis, foreign bodies of the cornea, cataracts and various other pathology of the anterior segment of the eye; but when it comes to using it universally for the diagnosis and interpretation of the pathology in the fundus that is much more difficult, and I think probably responsible for Dr. Hall's statement that the specialists themselves are not sure of the ophthalmoscopic findings. In our office the most common consultation is concerning the interpretation of the ophthalmoscopic examination.

Dr. Churchman is not giving the general practitioner "Hell"—far from it. In fact, he compliments him by expecting him to use this instrument with greater facility than most men specializing in this field are able to do. I do not know when I have felt my own limitations more than when I read Dr. Churchman's paper, so I thought I would check up with some other specialists in this field, and upon comparing notes they all told me they frequently had difficulty and were often uncertain in regard to their findings. I felt somewhat consoled.

In many cases I can not tell whether pathology present is due to a high degree of focal infection, syphilis, or nephritis, and in twenty years' practice I have never seen a tubercle of the choroid. If they are present I have overlooked them. As to

estimation of the degree of refractive error by the ophthalmoscope, I am unable to determine this in at least half of the patients I see.

As Dr. Churchman says, he has been in practice for nearly forty years now, and I think he has become so proficient in this field that he has forgotten the difficulties of his younger years. This is certainly one field in which practice makes perfect and I envy him the confidence which he possesses. I would say that the general man, far from being able to use the ophthalmoscope in a short time, would find several months of intensive work and the examination of a great mass of clinical material necessary before he would be able to look at a fundus and interpret his findings with any degree of confidence, but I do agree with Dr. Churchman that the ophthalmoscope could be used a great deal more than it has been, and that it could be of a great deal of aid to the general man.

DR. CURRAN POPE, Louisville: I have used the ophthalmoscope for thirty-nine years and I think that an internal medicine like myself should never take a patient without examining the retina. That is just as much a part of the examination as is the reflexes or the pupillary reactions.

A good deal has been said here today about our not being absolutely sure of the condition of the retina. If you ask yourself how many other things you are sure of, you will find that the retina does not stand by itself. It is just one item in the whole picture that aids you in your diagnosis. It enables you to look a little deeper and become a little more accurate in your diagnosis.

Dr. Churchman said that one could see a commencing choked disc with the Wassermann negative, and, I might add to that, the negative spinal fluid. Yet you might find such a patient with knee jerks and other symptoms that would at once settle what you had found with the ophthalmoscope.

If we say that a man must make a diagnosis on one symptom or on the examination of one section of the body we certainly limit ourselves very gravely. That is why Dr. Churchman's paper is of such timely interest. He has pointed out and brought home that we must correlate the relationship of the ophthalmoscopic findings with the general findings of the patient.

DR. W. C. THOMAS, Fairmont: It takes a lot of practice with the ophthalmoscope for the general practitioner to recognize even the physiological difference in normal fundamentals of fundus. Yet with constant practice with the ophthalmoscope a fundus can be picked up and there are times when, with relative ease, pathological conditions can be recognized. The general practitioner can, at least, tell if there is something wrong. To me, that is the big point.

DR. CHURCHMAN (closing the discussion): If the general practitioner will learn the use of the ophthalmoscope well enough to determine a pathological condition when he looks into a patient's eye, then he will benefit both himself and his patient. He will at least give his patient a confidence in him that he is able to detect a pathological condition that the other fellow has not found.

Dr. Fawcett spoke of the diagnosis of the refractive area. A man must have experience in order to do these things. I first began to use the ophthalmoscope forty years ago. It was not taught much then and it was a road we had to dig out ourselves through the forest. If the ophthalmoscope had stopped there, it would not have amounted to much and there would have been few ophthalmologists today. The doctors have had to work the things out themselves.

Such a thing as making a refraction test or making a correction in the refractive area with an ophthalmoscope forty years ago was unknown. But even then it was possible to see that there was at least some error. If a doctor looks through an ophthalmoscope and finds that a plus lens gives a better showing than the plain lens, he knows that it is hyperopia. Then he knows there is some refractive area. It is up to him to refer his case to an oculist who will refract, and not to an optometrist.

Offhand I would say that seventy-five per cent of the refraction cases that come into my office, I first refract with the ophthalmoscope. Ophthalmologists who do not use the ophthalmoscope as an aid in refraction are making a big mistake.

If the men in general practice will learn to use the ophthalmoscope they will find many pathological conditions in the eye. If there is a physiological cupping or an abnormal condition, and known to be abnormal, then refer the case to your ophthalmologist to work out for you if you are not proficient enough. That will aid you in your work, especially if the patient knows you have found a pathological condition.

The point I want to stress is this. If the general practitioners, instead of referring their patients to an optometrist for a pair of glasses, will learn to use

their ophthalmoscopes they will probably find the pathological conditions I have referred to. If he does find such a condition and corrects it, the patient will be better off and will have something to thank the general practitioner for. Otherwise he will have something to "cuss" the general practitioner for, for letting him go a number of months without having his condition corrected.

PNEUMOCONIOSIS: A PARTIAL REVIEW OF THE LITERATURE *

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IN THE last ten or fifteen years physicians and social workers have been investigating the industrial diseases with more interest than during the entire preceding century. The type of occupational disease to which I wish to call your attention is that disease associated with the so-called dusty trades—pneumoconiosis. Pneumoconiosis (or pneumonoconiosis) may be defined as the pathological changes produced in the lungs as a result of the inhalation of dust. Numerous other names have been given to the disease, as chalicosis, silicosis, anthracosis, siderosis, etc., depending on whether the dust was due to stone, sand, coal, or iron particles. Many lay terms, as "dust disease," "miner's asthma," and "miner's phthisis," are also heard. Because of the confusion caused by the many terms, we consider it best to stick to the general term pneumoconiosis.

There may be three ways in which the inhalation of dust may cause disease in the lungs. First, there are those changes resulting from the poisonous action of the dust (chemically), as happens in the production of certain of the medals,—lead, arsenic, mercury, etc. The second class of cases is due simply to the irritating effect of the dust on the bronchial tree, with resulting bronchitis and asthmatic symptoms. This second class of case is never serious and is found in the vast majority of ordinary city dwellers who are constantly inhaling dust. Lastly is the type of case in which there is a definite fibrosis as a result of the dust inhalation. It is the last type of case which we recognize as true pneumoconiosis.

These cases of actual fibrosis are not to be confused with the cases of deep pigmentation seen in anyone who has been a coal miner for a few years. Pancoast and Pendergrass, in a splendid review of the subject, tell us that there is no relation between the pigmentation and the amount of fibrosis. In fact, the condition is relatively rare in coal miners, though all authors agree that it can occur. The writers mentioned above consider coal dust comparatively harmless but think the pathology is due to silica dust which is inhaled when the coal is blasted out. It is recognized that the disease is less prevalent among miners in the bituminous coal fields than among those in the anthracite mines. The greater the percentage of silica (SiO_2) found in the dust, the greater the incidence of pneumoconiosis. So much is this true that some writers have advanced the theory that the silica forms a colloid in the cell which causes it to undergo fibrous change. Regardless, it is found that miners in hard rock (granite, diamond mines, etc.) are much more prone to the disease than those working in dust with a lower silica content.

Factors concerned in the development of the disease are, first, the length of time a man is exposed to the dusty trade; second, the quantity of dust present; third, the quality of the dust (per cent of SiO_2); and fourth, the size of the dust particles. The large particles of dust do relative little damage as they do not gain entrance as far into

* Original paper.

the lungs. The particles which cause the fibrosis are so small that they easily pass through a respirator into the pulmonary alveoli.

The signs and symptoms of pneumoconiosis are as variable as the occupations with which the disease is associated. Marked dyspnea and loss of capacity for work are the two most constant complaints, but there may be a wide variety of complaints, as bronchitis, asthma, weakness, loss of weight, slight temperature, cough, and even hemoptysis. Physical examination may show limited expansion, areas of dulness, râles, or increase in the tactile fremitus. The patient may appear cyanotic and there may be complaints of epigastric oppression or other gastro-intestinal disturbances. Jarvis, who has done an enormous amount of work among the granite workers of Vermont, and Edling of Germany, point out the lack of signs and symptoms in the majority of cases.

The diagnosis is made almost entirely by Roentgen rays, after a history of occupation in one of the dusty trades has been established. To facilitate the description of the roentgenological findings it is first necessary to understand the pathological process involved. Pancoast and Pendergrass divide the succession of pathological changes leading to the condition into four stages: the entrance of dust, the appearance of dust cells, the entrance of dust cells into the lympthatics, and fourthly, the conversion of the dust cells into fibrous tissue following lymphatic blockage.

The entrance of the dust depends on the size of the particles and the amount of dust present; but there are also physical findings in the individual which bear on the entrance of the dust into the respiratory tract. Jarvis noted among the granite workers at Barre, Vermont, that those with least lymphoid tissue in the upper respiratory tract were able to work longer at the trade without evidence of fibrous changes in the lungs. Mouth breathers seem less prone to develop the trouble than nose breathers. This is explained by the fact that dust inhaled through the mouth comes in contact with the posterior pharynx and is more likely to be swallowed than dust inhaled through the nose.

The exact source of the dust cells is a question which is still debated among pathologists. Whether the cells are derived from the epithelium, lining, the pulmonary alveoli, or whether they are derived from the blood, passing into the air sacs by diapedesis, these cells appear soon after the appearance of dust in the alveoli and shortly begin their phagocytic action of engulfing the dust particles. Microscopic slides at this stage would show many phagocytes present, gorged with dust particles.

The third stage of the pathological sequence is the entrance of the phagocytic dust cells into the lymph stream. To follow the changes further it is necessary to review the minute anatomy of the lung. William Snow Miller has given us valuable information along this line and it is from his work that most of the following is gleaned. As the bronchial tree divides smaller and smaller, a point is reached where the alveoli are seen opening directly into the bronchioles. These bronchioles are called respiratory bronchioles and each divides into two alveolar ducts, which in turn divide into three atria. Each atrium opens into a variable number of air sacs, which have opening from their surface, numerous air cells. A primary lobule, the anatomical unit of the lung, is made up of an alveolar duct, the air spaces leading from it and all the associated nerves and blood and lymph vessels.

There are two great systems of lymph drainage, the pulmonary and the pleural; independent, yet communicating at the hilum to which both drain. The pulmonary system starts at the primary lobule and drains along the bronchial tree; whereas the pleural lymphatics start in the fibrous septa, dipping down from the pleura and marking out the secondary lobules of the lung, and follow the pleura to the hilum. Both lymphatics

contain valves preventing a backward flow.

As long as the dust cells are able to flow through the lymphatics, which they enter after becoming gorged with dust, there is no further pathological change. However, if the process continues over a period of some time, there is a clogging of dust cells at certain points along the lymphatics and at these points the dust cells are gradually converted into fibrous tissue. These changes are first noted at the hilum by an increase in the hilum shadows and the lineal markings. Next, the dust cells dam back further along the lymphatics, and, changing to fibrous tissue, cause an interlobular thickening between the primary lobules. The pleura becomes thickened, due to blockage in the pleural lymphatics also. As lymph flow is further disturbed the phagocytic cells accumulate in groups along the lymphatics and cause fibrotic nodules. If the process continues long enough, there is in time a generalized fibrosis through the entire lung.

As was stated before, the diagnosis is almost entirely made from the Roentgen rays. Too much emphasis can not be placed on the value of coördinating the physical and the roentgenological findings. Without complete understanding between the clinician and the roentgenologist, many of these cases will be diagnosed tuberculosis or some other pulmonary condition.

The roentgenological findings are divided by the majority of essayists into three phases. The first phase, when the process is barely starting, is the hardest to diagnose, and is characterized by an increase in the trunk shadows of the larger bronchioles. The changes are bilateral, usually slightly more marked on the right, and closely resemble the changes from any chronic respiratory infection. There may be a few small punctate areas of increased density, but these are ill defined in this stage.

The second stage is characterized by the appearance of small, dense, circumscribed, punctate areas which are seen bilaterally. These findings are due to the groups of cells accumulating along the lymphatics and undergoing fibrosis. These small areas first appear on the right side underneath the clavicle (subapical); but soon become bilateral and are always seen on both sides if the disease has progressed. The larger of these areas are found in the lower part of the upper third of the lung.

In the third stage, fibrosis has progressed until the small sharply defined dense areas have become larger and more irregular. The lung may be covered with large irregular dense splotches with only a few of the small lesions visible. This process may continue until the greater area of the entire lung presents a fibrotic appearance. These changes are due to the increased fibrous tissue causing a conglomeration of the smaller areas. In this stage, also, there are usually diaphragmatic adhesions causing limited expansion of the diaphragm. Retraction of the chest wall may occur and there may even be pleural adhesions. At times bronchiectasis and emphysema may be found in the third stage.

Jarvis goes further than most roentgenolosists, dividing the Roentgen rays findings into six stages, as follows:

1. Increase in the hilum shadows.
2. Increase in the root shadows of the bronchi.
3. Appearance of circular densities along the lineal markings. These areas of increased density first appear along the alveolar ducts, mentioned in discussing the minute anatomy of the lung.
4. Fan shaped areas of increased density which form with the circular areas mentioned above as the apex of the fan. These fan shaped areas then come to comprise a primary lobule which has undergone fibrosis.
5. Peripheral haze, due to the damming up of the lymph in the periphery of the lung.
6. Pleural lymph stasis with resulting thickening of the pleura.

It is better to stick to the orthodox three phase classification, as very few have had the opportunity to observe as many cases as Jarvis.

The differential diagnosis of pneumo-

coniosis is comparatively easy when a history of the occupation is elicited and when the sharp circumscribed areas are found bilaterally. The only disease easily confused with the second stage is miliary tuberculosis, miliary bronchopneumonia (rarely found), or miliary carcinomatosis. The rather rapid onset, in the first two, the clinical symptoms, as fever and prostration, and the sputum examination should establish the diagnosis.

The first stage of pneumoconiosis is more difficult to distinguish, being confused with any factor which may cause an increase in the root shadows or the accentuation of peribronchial markings. Sante lists acute or chronic bronchitis, passive congestion of the lungs from cardiac decompensation, bronchial irritation from gases, and, occasionally metastatic malignancy. It is pointed out that in gas inhalation cases, the hilum may not be enlarged. Also in these cases there are never small punctate areas of increased density. The clinical history and examination are the important points in the differentiation in the first stage.

The third stage must be distinguished from any fibrous condition, resulting from old chronic infections as lung abscess, localized pleurisy, and tuberculosis. The last named is the most common cause for confusion. It is distinguished by the more even distribution of the lesions in pneumoconiosis, with less marked signs and symptoms, and lack of tubercle bacilli in the sputum on repeated examination. Pneumoconiosis never causes lung destruction or cavitation.

There has always been a wide range of opinion as to the tendency of the workers in the dusty trades to develop pulmonary tuberculosis. Among the coal mining population, it is often heard that coal dust prevents tuberculosis. This has been found to be an entirely false impression. Beattie states that among the Welch miners about eighty-six per cent die of pulmonary tuberculosis. He further states that the great majority of patients with pneumoconiosis will show some tuberculous involvement in the lungs on autopsy as well as pneumoconiosis. As tuberculosis heals by fibrosis, one would expect it to be less prevalent in lungs already having a marked fibrosis. While the incidence of the disease is definitely increased, it is found that in individuals with pneumoconiosis, tuberculosis runs a much slower course. Those cases which develop tuberculosis live much longer than the average person developing pulmonary tuberculosis.

While pneumoconiosis seldom causes death, it often causes permanent disability and loss of capacity for work. The treatment consists more of prevention than cure. This is accomplished by the elimination of as much dust as possible, by sprinkling with water or other means. In some of the dusty occupations, efforts are being made to select the type of individual who it is thought will better stand the inhalation of dust without developing fibrous tissue. Before there can be accurate selection there must be much more study along the line of Jarvis. The importance of having serial roentgenological examinations of the chest can not be overemphasized in the prevention of far advanced pneumoconiosis. The worker can thus be removed from the dusty trade before the process reaches the third stage fibrosis. Gray and Tabb point out as one of the characterizations of pneumoconiosis the rapid disappearance of many of the roentgenological findings when the patient finds other employment. Jarvis calls attention to the decrease in the lung shadows in the granite workers following strikes. This is not always true and the patient often is damaged permanently.

Among the coal miners the first stage is seen much more than the other two stages. In the majority of cases it is diagnosed as bronchitis when it is really an early pneumoconiosis, and can only be corrected by having the patient seek other work.

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THE USE OF CALCIUM IN ASTHMA *

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THE satisfactory treatment of asthma still remains one of the unsolved problems of medicine. There is apparently no specific formula for the treatment of this distressing condition, yet many remedies are offered as a palliation and relief. Some of them are of merit. Among these, calcium is one which has received considerable attention from various investigators into this problem.

Pottengeer [1] was among the first to advocate calcium in the treatment of asthma. He advocated this form of treatment on the basis that calcium deficiency in the cells of the bronchial tree was responsible for the asthmatic paroxysms. This deficiency, he believes, is due to either a hyperactivity of the vagus, causing an increased potassium content in the cells, or to a hyperactivity of the sympathetic nervous system which results in a direct decrease in the calcium content.

Besides this neuro-chemical conception of Pottenger, various other theories have been offered to explain the action of calcium in asthmatic conditions. Some have thought that it inhibits the proteolytic processes, or so modifies them as to render the protein split less toxic. Others have conceived of its acting in such a manner as to lessen nerve ending irritability.

Eppinger and Hess [2] proposed the physiological conception of asthmatic paroxysms as being a condition of local vagotonia with a diminished ratio of calcium to sodium and potassium. A basis for the assumption of a calcium deficiency in asthma is furnished by the opinions of several reliable investigators that increased capillary permeability constitutes a fundamental characteristic of the pathological physiology of hypersensitivity and anaphylaxis.

The serum calcium has been found to be within normal limits in most cases of asthma. Because of this fact it is believed by many clinicians that the improvement noted in asthmatic under the influence of calcium administration is due to the depressing action of the calcium and to its inhibiting influence upon cell permeability. Quite a few others believe that there may be a disturbance of the calcium balance not readily demonstrated by the methods at present at our disposal.

Cantarow [3] has found in some asthmatics that the non-diffusable calcium is low and

* Original paper.

the diffusible high. The injection of the parathyroid hormone whose relation to calcium mobilization is so well known caused a restoration of the normal relationship between these two factors of the serum calcium.

Pottenger, who so enthusiastically advocated the use of calcium in the treatment of asthma, reported immediate relief from paroxysms following the intravenous adminisstration of 5 to 10 cc. of a 10 per cent calcium chloride solution and permanent relief following continuation of treatment with calcium over prolonged periods of time at gradually increasing intervals. Others, however, found that calcium is of no permanent benefit in asthma, although many cases show a temporary improvement.

The present author has not found any single remedy that can be stated to be of permanent value in asthma, and certainly no such claims can be made for calcium. He has found, however, that calcium in conjunction with other appropriate remedies exerts a very remarkable effect in some cases. He has never tried an injection of calcium to control a paroxysm because adrenalin has always succeeded in giving relief.

Among the varieties of asthma which do not seem to yield to ordinary measures is that caused by vasomotor rhinitis. This has been found to yield to calcium therapy. Of the various salts of calcium now available calcium gluconate has been found to be the most agreeable to the patient. Next to this salt the lactate is desirable. I have never cared much for the chloride and have not prescribed it for a long time.

Calcium lactate, 30 grains, or calcium gluconate, 60 grains, four times a day to start with, is the regimen employed. At the same time, ephedrine sulphate in 3/8 gr. doses every four hours is administered. I have found that in patients who previously required 1/4 gr. doses of the ephedrine obtained just as good results or even better when calcium was given at the same time. Of course, the blood pressure of the patient must be taken to see that it is not too high before ephedrine is given. If it is, increased doses of the calcium may be given alone.

For the very severe and very frequently recurring paroxysms intramuscular or intravenous injections of calcium may be given. At the same time the oral administration of calcium should be continued. It has been found that in those patients in whom the calcium is being maintained at a high level by the various routes of administration, emergency uses of adrenalin to relieve bronchial spasm is not so often necessary, and when necessary it can be given in smaller doses.

As for the intravenous or intramuscular injection of calcium a word of caution must be uttered. Intravenous injections are often difficult, owing to adiposity or poorly developed veins. In many cases unpleasant subjective sensations are complained of even when the injection is given slowly. A slight unavoidable leakage in the tissues at the point of puncture gives rise to a local irritation. Intramuscular injections are, in the author's opinion, always to be prefered in cases of asthma to intravenous ones, and the best salt to use is calcium gluconate 10 per cent sterile solution. This has been my experience in the rather severe cases which do not seem to react to the oral administration of calcium.

Zimmermann[4] believes that only the intramuscular injections of calcium should be tried in the refractory cases of asthma which do not yield to other measures. In seven cases of severe asthmatic attacks Zimmermann found that courses of from 10 to 15 intragluteal injections of calcium gluconate brought about a remarkable and lasting improvement, without any unpleasant effects or local irritation.

Asthma still remains one of the most puzzling of diseases to treat. Many remedies have been tried, and as yet there is no one remedy which can be said to be a specific

treatment for the disease. There are, however, several drugs which may be used to control the undesirable features of the disease and make the patient more comfortable. Of these one which should be given respectful attention is calcium.

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TYPE AND EXTENT OF OPERATION FOR CANCER

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BEFORE any operation for cancer, the surgeon should estimate the relative value to the patient of the removal of the growth, and in this evaluation should be considered the possibility of excising the tumor in its entirety and the probability of the existence of metastases. In some instances, the partial resection of a tumor is indicated; in other instances, it is best to destroy by the cautery, or by dessication, the fungating masses which are extremely annoying and distressing to the patient.

Removal of the excessive excrescences of the growth, by the cautery, diathermia loop, or knife, or the dessication needle, reduces the sepsis, improves the cachexia, abolishes the noxious odors, and at times relieves the severe local pains. While in many cases the improvement is only temporary, yet the ease and the comfort which it brings to the patient are well worth the efforts expended to produce them.

Operation with the idea of the total removal of the local growth is contraindicated if metastases are found beyond the adjacent lymph glands. When located they should be removed, if possible by endotherm dissection or the so-called explosion technic of Howard Kelly, by which the gland is exploded, as it were, by the D'Arsonval Surrent. Operation is contraindicated if the surgeon's estimation of his patient's resistence leads him to believe that he will not survive the operation. The surgeon should always remember that he is not an executioner and that while it may be better, in his opinion, for the patient with advanced cancer, to be dead than to be suffering as he does, that he (the surgeon) is not the instrument of God's mercy.

An inoperable carcinoma may frequently be rendered operable, by associated surgical measures, such as, gastrostomy in cancer of the tongue or mouth; trachectomy in cancer of the larynx; gastroenterostomy in cancer of the pylorus; enteroenterostomy in cancer of the bowel; or colostomy in cancer of the rectum or sigmoid.

The neck is the only place where removal of a tumor may involve degenerative secondary changes in a vital structure (Brain). (It is not advisable to consider the excision of a tumor which necessitates the primary destruction of vital organs.) In operation on the neck it is seldom necessary to ligate simultaneously or obstruct both common carotid arteries. If this occurs there results a total anemia of the brain and death. Ligation of one common carotid artery, if at the same time, the internal jugular is blocked, will be tolerated, though in many instances it will cause a hemiplegia and death, especially in those of fifty years or over. Gradual obstruction of one common carotid may be successfully accomplished with slight cerebral disturbance. The obstruction is produced by exposing the common carotid artery and applying Crile clamps or Halstead's metal bands. External compression by a knot attached to a collar pressing in on the artery is

very painful and usually will not be long tolerated by the patient.

After blocking the arteries. a collateral circulation develops. This collateral circulation, when the internal carotid is ligated, is either backward from the external carotid of the same side, through collateral-peripheral branches into the internal carotid, or by a partial reversal of the circulation in the Circle of Willis, so that the blood flow is backward into the internal carotid, according to Astley Ashhurst, Nelson's *Survey,* 1927, vol. 11, 193—quoting Marquis and Lefeuvre, Rev. de Chir, 1920, 58, 680. The latter is the usual way.

If obstruction of the internal carotid is necessary it should be gradually produced; for if sudden blockage occurs, a blood clot will form in the internal carotid which will extend up to the Circle of Willis, and block the reversed circulation, as in a case reported by Ashhurst.

Both the external carotid arteries may be ligated either simultaneously or at any interval of several days between the two ligations. I have never noticed any marked disturbance from simultaneous ligations of the two external carotid arteries. Ligation of the carotids is also valuable as a prophylactic measure against hemorrhage in cancer of the face, when the surgeon is considering an extensive operative removal of involved tissue.

Abdomen.—One or both internal iliac arteries may be ligated with impunity. I have repeatedly, at the same operation, ligated the internal iliac arteries on both sides without any disturbing symptoms. At times there is a complaint of pain across the lower abdomen and pain on emptying of the bladder and on defecation; but in these patients there had been implanted seeds of Radon, near to the urinary bladder, so that the symptoms of urinary distress which began a few days to a week after the implantation may have been due to the irradiation and not to the disturbance of the circulation. Usually, however, the patiants do not complain of any disturbance. This is rather remarkable when it is noted that the total arterial circulation, except by collaterals, to the pelvic organs, is obliterated. The bleeding which had previously been persistent from the carcinomatous mass, and which was one of the indications for the operation, ceases at once. I have had bleeding recur, when only one internal iliac was ligated and in exceptional cases, after a long period of time, when both internal iliacs were ligated, so that evidently a collateral circulation quickly forms.

I believe that restriction of the blood supply has at least a temporary beneficial influence on the cancerous growth, but in my experience when used alone, without other treatment, does not produce permanent curative results. The pain of which the patient complains, and which is a major indication for ligation, ceases immediately, and in most instances does not return until the terminal stage of the disease, and then in nearly every case is controlled by calcium given by mouth, intramuscularly, or intravenously.

In planning any operation on a tumor, the location of the tumor and its relationship to the organs essential for life, should be carefully considered; such as, its relationship to the central nervous system; the pancreas and liver, the gall-bladder, the stomach and intestine, the urinary system, and the respiratory system.

SPECIAL ORGANS ESSENTIAL FOR LIFE

Central Nervous Syslem.—Considerable portions of the frontal lobes, the so-called silent areas, may be removed without entailing marked impairment of mentality. When other cerebral areas which are associated with special senses are removed, the special senses are permanently destroyed. The sensory disturbance in bi-lateral central areas are compensated, when destroyed on one side, by development of the homologous areas on the opposite side—such as vicarious hyper-activity, we find especially when the central areas for the visual and auditory speech, are involved, etc.

Cord Tracts.—Destruction of cord tracts results in permanent paralysis or loss of sensory perception in the areas supplied from the segments lower than the one which is destroyed.

Pancreas and Liver.—Considerable sections of both organs may be removed without death. However, operative interference in such cases is a formidable undertaking and should merit the greatest consideration. The secretory ducts should be preserved.

Gall-Bladder.—Removal without extensive damage to the liver should be undertaken. When necessary the gall bladder should always be sacrificed. The adjacent involved areas of the liver may be destroyed with the cautery.

Stomach and Intestine.—Extensive sections of the stomach and intestine should be removed when possible, if there is a fair chance of ultimate recovery; otherwise, pallative short-circuiting operations should be done.

Urinary System.—One kidney may be removed. Primary preparation should always precede the operation in order to make sure that urinary elimination, after one kidney was removed, would be adequate.

In pelvic operations, the ureter should be preserved, and we should remember that the blood supply of the ureters is carried in the loose areolar sheath surrounding the ureter, and that this should not be destroyed. The urinary bladder may be entirely resected and the ureters implanted into the pelvic colon or rectum, but this is too formidable an operation for the ordinary surgeon and should not be attempted.

Genital Organs.—The genital organs when involved should be ruthlessly sacrificed. The adjacent glands also should be resected.

Lungs.—As much as one entire lung has been removed for cancer. The results are not good because of the usual extensive metastases.

Sight.—One or both eyes may be removed when necessity demands. This is particularly true when gliomas are present. The earlier and the more complete the operation, the better the permanent results.

Voice.—It is remarkable how well a person may speak without a larynx. The voice is husky but has fair carrying power, and is understandable. If paralysis of the cords on one side results from section of a recurrent laryngeal nerve, the patient can still phonate fairly well. The voice becomes hoarser.

Hearing in one ear should be ruthlessly sacrificed, if doing so is necessary to a good result. It is hardly conceivable how the necessity would arise of sacrificing the hearing apparatus of both sides.

Smell and Taste.—No consideration should be given the preservation of smell or taste, if their destruction entails better operative results.

Preservation of the motor supply in a limb is most important, though it is also necessary to preserve as much as possible of the sensory supply. A patient is able to get around fairly well without a sensory supply but not so well with a deficient motor supply.

If either a motor or an essential sensory nerve is involved in the growth, so that it is necessary to resect it, the two ends should be anastomosed, either immediately; or, if that is not advisable, sometime later, at a secondary operation.

It is especially necessary to preserve the facial nerve, when operating on parotid and other tumors, at the side of the face, and the angle of the jaw. If all the branches of the facial nerve are not destroyed, those which have been preserved compensate for those which have been destroyed.

The vagus may be cut on one side without serious disturbance to the heart or to the lungs. Needless to say it should, if possible, be preserved. The spinal accessory nerve may be sacrificed with impunity. There may be some permanent disability of the trapezius muscle.

Hypoglossi and the superior laryngeal nerves should be preserved. The inferior laryngeal nerve should be extirpated, when necessary, even though this produces a flaccid

paralysis of the vocal cords which causes hoarseness. If the brachial plexus is involved so that it is necessary to sacrifice it, the upper arm should be amputated as under these circumstances it is a useless appendage. On the other hand, it is best to retain the lower limb, even if the complete excision of a tumor entails total paralysis. Orthepedic appliances can be devised which can partially compensate for the paralysis. In any case a living limb, though partly paralyzed, is of greater value than a lifeless artificial one. In breast operations the subscapular nerve supplying the latissimus dorsi and the long thoracic supplying the serratus magnus should be preserved.

Muscles.—Preservation of muscle is not requisite for good results though overzealous dissection may leave marked disfigurement and disturbance of function, such as follows:—destruction of the anterior muscles of the leg (quadriceps), the sterno-mastoid, and the biceps.

Bones.—The long bones of a limb may be removed and replaced with a graft, though if so extensive an operation is necessary, it is best to amputate the limb, as infiltration or metastases usually involve the bone or muscle higher up. The opened bone permits ingrafting of cancer cells and secondary growths are very easily induced, as it is impossible to use the cautery, especially the endotherm for excision through the bone. However, since it is impossible to cut through the bone with either the cautery or endotherm, a measure of precaution may be taken, by cauterizing the opened surfaces of the bone, and a good drainage should be provided.

The law of the surgeon should be to remove extensively all cancer tissue with a wide circumferential margin of sound tissue including the fascial conducting pathways with the associated lymphatic glands. In doing this he may sacrifice all tissue not necessary to the vital functions, and only preserve tissue when its preservation entails no risk of recurrence of the cancer.

6079 Jenkins Arcade.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

A TRIAL OF SANOCRYSIN

[Sanocrysin (sodium-gold-thiosulphate), was announced by Mollgaard in 1924. Clinical observations of the effect of the drug, published by numerous European writers since then, have been decidedly variable. Generally speaking, favorable results have been reported of cases with the exudative type of lesion, while little clinical improvement has been noticed in cases of the chronic type. Since some of the clinical reports do not seem to justify the conclusions drawn, a group of investigators in the William H. Maybury Sanatorium in Michigan decided to make an intensive study of the effect of sanocrysin on a small, carefully selected, closely comparable group according to a prearranged plan. Results of the study were published in the October, 1931, *American Review of Tuberculosis*, of which the following is a brief abstract.]

Mollgaard cliamed that sanocrysin has a specifically curative effect on tuberculosis. He believed that the drug, introduced into the blood stream, permeates tuberculosis lesions and there kills many, if not all of the tubercle bacilli. Exudative, not too acute, pulmonary lesions of early age, being more pervious than the fibrous type, were considered more responsive to treatment. The fever, albuminuria, eruptions, and loss of weight resulting from the treatment was attributed to the liberation of toxins from the disintegrated bacilli. To offset the ill effects, an anti-serum was developed, and this was administered at the first sign of reaction; namely, albuminuria.

Other workers used the drug, as well as various other gold compounds, in human cases. The amount of gold in these compounds varies greatly; sanocrysin contains 37.4 per cent of gold. The present concensus of opinion seems to be that the chemical is not a specific bactericide, that nevertheless favorable responses sometimes occur, and that the toxic properties of the drug compel consideration. Metallic poisoning, rather than tuberculin-like shock, seems to account for the unfavorable reactions; consequently, Mollgaard's antiserum has been discarded by most clinicians and smaller doses of sanocrysin are given.

Plan of Trial.—The treatment was explained to a group of patients of the William H. Maybury Sanatorium. The twenty-four patients who were finally chosen from among the volunteers were all in good general condition who would, therefore, not be likely to suffer ill effects from the drug. Most of them had benefited to some extent by the routine sanatorium treatment, but the healing of their disease was slow and incomplete. The lesions were chiefly of the exudative and mixed exudative-productive types. All were free from complications.

On the basis of clinical, x-ray and laboratory findings, the patients were then divided into two equal and comparable groups, cases being matched one with another as closely as possible. By a flip of the coin, Group I was designated as the sanocrysin-treated and Group II as controls. The patients themselves were not aware of any distinction in treatment.

Method of Observations.—The patients were put to bed for a month prior to starting any medication, during which time uniform data and information were collected to serve as a basis of comparison. The preliminary thirty days' study was carried out in the following manner:

1. The chest was examined biweekly particularly to determine any variation in the extent or distribution of the rales, the findings being described in the record.
2. The chest was x-rayed (stereoscopic) at the beginning and at the end of the month and the films presented, special notes of any changes being recorded.
3. Careful records of the presence and clinical course of complications and symptoms were made.
4. The sputum was weighed daily, and this figure was charted; also averaged at the end of the month.
5. The sputum was examined microscopically every two weeks to determine the presence of tubercle bacilli. A method of sputum concentration and animal inoculation was used routinely when indicated.
6. Body weight was measured and recorded weekly.

At the end of this preliminary checking, the same routine was continued during the period of the trial, except that physical examinations were done more frequently, particularly to show the presence and behavior of perifocal reactions, and stereograms of the chest were made monthly; oftener in cases showing rapid change.

Each patient receiving sanocrysin (Group I) was started with 0.1 mg. of the drug, dissolved in 2 cc. of distilled water and injected into a cubital vein. At intervals of four days, unless contraindicated, additional injections were given, increasing by 0.1 gm. up to 0.3 gm., and then increasing to 0.5 gm. The amount of distilled water was increased to 5 cc. when the dose of sanocrysin exceeded 0.3 gm. The 0.5-gm. dose was then repeated until the course was completed. The number of injections varied from nine to fourteen, and whenever there was a suspicion of a dangerous reaction the next dose was reduced, omitted or postponed. The total amount of sanocrysin administered to single patients varied from 3.1 to 6.1 gm., while the total amount per kgm. of body weight varied from 0.6 to 0.1 gm. The patients treated as controls (Group II) each received 14 intravenous injections of distilled water (2 cc. each) at intervals of four days.

Effects of Treatment.—The detailed effects on the tuberculous conditions are minutely described in the article. The observations include the effect on temperature, pulse, lassitude, body weight, cough, sputum, appetite, sleep, physical findings, pain in chest, hemoptysis, dyspnea. Similarly, the toxic effects referable to the drug are noted as these effected the skin, nerves (neuritis), mucous membrane, eye, gastrointestinal tract, liver, kidneys, etc. Laboratory evidences were as carefully and as fully studied. The study lasted approximately six months, during the first two of which sanocrysin treatment was given. During the entire period of the trial, both groups were kept in bed.

A follow-up of patients was instituted one year after the close of the study. In finally determining the effects of the treatment, all the observations were correlated. Chief reliance was placed on such factors as changes in the x-ray shadows of pulmonary lesions, presence or absence of tubercle bacilli in the sputum, measurable symptoms such as temperature, and fluctuations in body weight. Changes in physical signs were not given much value. Toxic effects of the drug were distinguished as far as possible from symptoms referable to the disease itself. A summary of the results is as follows:

	Group I (Sanocrysin)	Group II (Control)
Number	12	12
Slightly improved	5	6
Much improved	1	1
Unchanged	0	3
Slightly worse	1	1
Much worse	4	
Slight toxic effect	8	
Severe toxic effect	3	
Total	1	

PRESIDENT'S PAGE

IT is with great pleasure that I address you as your President. Not until I started this page did my short-comings crowd upon me in a regular avalanche. Therefore, it is with great humility that I offer counsel to such a distinguished group of men.

It is well known that we, along with other professions, have received much criticism. There are many factors, both within and outside of our profession, tending to undermine the foundation and background of medical ethics. It is disturbing to hear the criticisms heaped upon us, when we are rendering better service today than was ever given before. Whatever may be the true cause, we must admit that we no longer remain "on top of the world." We are failing to maintain that age-old culture in the face of new conditions and to preserve the virtues for which we once were both envied and respected.

In the place of the time-honored, beloved family physicians, there have appeared many physicians and surgeons who have attempted, with varied success, to become a part of the industrial world known for its cruel and merciless dealings with competitors. Intoxicated with this new success and with ideals somewhat warped by this new association, many doctors have entered into contracts with industrial leaders to hospitalize employees on a mass scale at so much per head. The competition for this work has become so strong in the southern part of West Virginia that some hospitals have hired paid solicitors to solicit additional business.

Many physicians in this and other states feel that such a form of practice is a direct violation of the principles of the practice of medicine. I still adhere to the belief that we should obtain our practice because of the skill we possess and the care and consideration we extend to our patients. Under the contract plan, skillful competition is replaced by commercial bartering. The patient, instead of receiving first consideration, has no choice in regard to the physician, the surgeon or the hospital to which he or his family must go. Still, he is paying the entire bill.

Permit me to say that I am proud to claim as good friends some of the physicians engaged in this work. It is possible that they look upon contract practice in a different manner from the rest of us. Therefore, a free and, we hope, an unbiased discussion of this method of practice will be arranged at our next state meeting in Parkersburg. Certainly the time has come for our State Association to either accept or reject it.

Albert H. Hoge

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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NEW YEAR'S GREETINGS

The JOURNAL takes this opportunity to wish its readers a happy and a prosperous New Year. In spite of the 1931 depression, both the Association and the JOURNAL have fared well. The thriving condition of the Association affairs at this time is due solely to the fine spirit of enthusiasm and coöperation on the part of the entire membership.

Having successfully weathered the economic storm of the past twelve months, we look with every confidence toward 1932. If the members of the West Virginia State Medical Association can render yeoman service in such a period of economic stress, then certainly shall organized medicine continue to thrive in this state. We hope that the success of 1931 shall give way to the prosperity of 1932.

For the success of the Association, we thank the members. For the success of the JOURNAL we thank our contributors and our readers. To both, we extend the season's greetings.

HOME TOWN HOSPITALS

A newspaper clipping from the *Parkersburg Sentinel* has recently been received from a prominent West Virginia doctor. He wrote, "This clipping, I feel, would be of interest to the medical profession and should be reprinted in the JOURNAL." The clipping speaks for itself, so we publish it without comment.

"Mayor Floyd S. Chapman of Huntington, who a few weeks ago was elected to office by an overwhelming majority, recently was stricken at his desk and was taken to a Cincinnati hospital to undergo an operation. Huntington is supposed to have some of the best hospitals in the country, but the mayor of that town, like most other outstanding personages in a community, hastens to a big city hospital when he becomes scared about his physical condition. Sometimes we wonder whether those big city hospitals are really any better than the home town institutions."

THE SA-LAX CORPORATION

In September of this year the Sa-Lax Corporation of Washington, D. C., sent a representative into West Virginia to interest members of the medical profession in prescribing Sa-Lax for their patients. We have nothing to say about the business integrity or the financial responsibility of this company, but we do wish to explain their method of securing business.

To each doctor who will agree to enter into their proposition, they will issue one share of stock with a par value of $100. For this stock the doctor must give the company four notes of $25 each to cover the cost of the stock. Then the doctor must notify his druggist that he is going to prescribe Sa-Lax in selected cases, so that the druggist, in turn, can order Sa-Lax from the Sa-Lax Corporation. These orders come at $25 each.

When the druggist has sold his first $25 order, he remits to the Sa-Lax Corporation, and the Sa-Lax Corporation, in turn, sends the first of the series of $25 notes back to the prescribing doctor. When four lots of Sa-Lax have been ordered, sold and paid for by the druggist, the doctor then has his $100 share of stock fully paid for and has nothing further to worry about, except possibly his conscience.

Our reason for mentioning this system of business is simply for the purpose of condemning it. From the professional point of view, we can think of few things more pernicious than for a doctor to be financially interested in any product that he might be called upon to prescribe. We hope, and feel

sure, that our West Virginia physicians will turn a deaf ear to any and all propositions of this kind.

THE PLAIN TALK CAMPAIGN

On December 14 the JOURNAL received a communication from *Plain Talk*, monthly magazine, calling attention to two articles appearing in their January number; one entitled "The Hospital Racket," and the other, "Gerry Morgan and Medical Ethics." A copy of the magazine was purchased and the two articles carefully read.

We mention this simply for the purpose of advising our JOURNAL readers not to fall for this new circulation racket. Apparently *Plain Talk* is attempting to force its periodical upon the medical profession in an effort to increase its newsstand sales. We admit, with some chagrin, that their "gag" worked successfully on us. We, like many other physicians will undoubtedly do, bought the January issue of *Plain Talk* to see what it was all about.

Plain Talk's attack on Dr. Morgan for his recent remarks concerning the children's bureau of the department of labor is both stupid and ridiculous. The attack on the hospitals of America is even more ludicrous. For example, we quote from the last article "Something should be done to curb this wholesale butchery (meaning operating room technique) and experimental vivisection, which flagrantly and criminally deprives society of its useful members by legalized butchery. . . ." This is just a sample of the extravagant use of words employed in both articles.

Plain Talk clamors for a congressional investigation of the American Medical Association. It might even be considered unfortunate that this clamor does not come from a more reputable source. Certainly if the public at large feels one-hundredth part as antagonistic toward the American Medical Association as *Plain Talk* does, then a congressional investigation should be welcomed. It would give the A. M. A., at least, an opportunity to place its true principles and its true worth before the American public.

Again we apologize for occupying the time of our readers with this comment on the *Plain Talk drivel*. Our request is that the doctors of West Virginia ignore the *Plain Talk* circulation racket and allow *Plain Talk* to build up its sales through other than medical sources. If any doctor wants to see for himself what sort of trash is being foisted on our American citizenship, we'll be glad to send him our copy of *Plain Talk* free of charge.

A HOSPITAL DUTY

To keep the crippled or convalescent child busy and happy, to prevent a warped mental attitude on his part is the business and delight of the University of Michigan Hospital at Ann Arbor. Hospital children are handicapped from several points of view. They are confined to one particular place. Education may be neglected. Ill at the time, the child can not be as active as a well child.

Playgrounds, work shops, libraries and game rooms provide enjoyment and occupation for the child.

The problem of education is an important one. The school child does not like to be retarded because of illness. The hospital child should not show any evidence of lapse of time in his educational development. Part-time and full-time teachers are employed to prevent this arrest, the article, "Hospital Children," by Frank T. Cameron, points out in *Hygeia*.

FIGHTER OF GERMS

Sir William Boog Leishman joined the British army at the age of 22; as a fighter of typhoid fever he will always be rembered, for his work was confined to the Royal Army Medical Corps. He was always to be seen carrying a microscope. This encumbrance was his companion even to his appointment to the highest administrative post in the Royal Army Medical Corps. In addition, Dr. Claude Lillingston discusses in *Hygeia*, the Health Magazine, his value during the World War. Disputing military men, he maintained that no man should leave England without at least one injection of a thousand million dead typhoid germs.

OBITUARY

DR. J. C. IRONS

Dr. J. C. Irons, one of the oldest practicing physicians in West Virginia, died at his home in Elkins on the morning of November 30, 1931, following a lingering illness of heart trouble and complications. He was 79 years of age.

Dr. Irons was born in what is now Monroe county, West Virginia, and spent his early life in that vicinity. In 1881 he graduated from the Hospital College of Medicine, Louisville, and was licensed to practice medicine in this state the same year. He immediately located in Randolph county and practiced in and near Elkins for fifty years, until his death.

Dr. Irons was one of the best known of the older practitioners of medicine in West Virginia. In addition to his practice, he was interested in religious and civic affairs. He was an elder in the Davis Memorial Presbyterian church at Elkins. He served several terms as a member of the Elkins city council and was later elected Mayor, serving three terms in that office.

In point of service, Dr. Irons was one of the oldest members of the West Virginia State Medical Association, having joined shortly after receiving his license to practice. For several years prior to his death he served as secretary-treasurer of the Barbour-Randolph-Tucker Medical Society. In recognition for his years of service to the profession in this state, he was last year elected to honorary membership in the state association.

In addition to his widow, Dr. Irons is survived by two sons and three daughters. Two brothers, one sister, and four grandchildren also survive.

DR. M. R. STONE

Dr. Marvin R. Stone, 53 years of age, died at his home in Parkersburg on September 4 of coronary occlusion. Dr. Stone was well known throughout Wood county and was a past president of the staff of the Parkersburg City Hospital. He was also a member of the staff of the St. Josephs Hospital.

Dr. Stone graduated from the College of Physicians and Surgeons, Baltimore, in 1908, and was licensed in West Virginia the same year. He became a member of the Parkersburg Academy of Medicine and the West Virginia State Medical Association in 1919 and continued his membership in good standing until his death.

DR. C. R. CAMPBELL

Dr. Clark R. Campbell, one of the pioneer physicians of Greenbrier county, died at his home in Williamsburg on September 10 from angina pectoris. He was 73 years of age and had practiced in Williamsburg and vicinity for forty-six years.

The deceased became a member of the state medical association through the Greenbrier Valley Medical Society in 1912 and continued his membership until his death. He was a well-known citizen of Greenbrier county where he took a lively interest in county and community affairs. Dr. Campbell never married and was the last member of his immediate family.

Funeral services were held on September 13 and interment was made in the Sinks Grove cemetery, Monroe county, near the place where Dr. Campbell was born.

MRS. J. R. SHULTZ

Mrs. Lenore Bender Shultz, wife of Dr. J. R. Shultz, Charleston, died at a hospital there on December 17 following an operation. She was ill about ten days. In addition to her husband, Mrs. Shultz is survived by one daughter, Miss Billy Shultz.

DR. A. M. BURT

Dr. Archibald M. Burt, Mannington, died at his home there on December 15 at the age of 50 years. He was a practicing physician for many years and was also interested in a number of business enterprises. Dr. Burt formerly resided at Wheeling. He is survived by his widow and one son, C. Burt, of New York City. Funeral services were held from the residence on the afternoon of December 17 and interment was made in the family burying ground.

COUNTY SOCIETY NEWS

OHIO COUNTY

The Ohio County Medical Society carried out an unusually interesting series of meetings in December, with scientific programs presented on December 4, 11, and 18. All of the meetings were held in the Solarium of the Ohio Valley General Hospital.

Dr. David Silver of Pittsburgh was the December 4 essayist, presenting a paper on "Future Progress In the Care of the Cripple." Discussion on his paper was opened by Dr. J. O. Rankin and Dr. E. F. Glass, Wheeling, and Dr. P. B. Steele and Dr. J. A. Heberling, Pittsburgh.

The essayist for the December 11 meeting was Dr. John R. Caulk of St. Louis, who lectured and explained the "Cautery-Punch Operation." Discussion on this paper was opened by Dr. W. C. McCuskey, Dr. R. D. Gill, and Dr. H. W. Bond, all of Wheeling.

Dr. Charles Mayo of the Mayo Clinic, Rochester, Minnesota, read a paper at the December 18 meeting on the subject, "Some Unappreciated Hepatic Functions." Discussion was opened by Dr. Robert J. Reed, Sr., and Dr. W. M. Sheppe, both of Wheeling. Preceding the December 18 meeting, an informal dinner in honor of Dr. Mayo was held at the Fort Henry club, Wheeling, with most of the members of the Ohio County Medical Society in attendance.

H. C. HARPFER, Secretary.

KANAWHA COUNTY

Dr. W. P. Black, Charleston, was elected president of the Kanawha Medical Society at the December 1 meeting which was held in the Public Library auditorium, Charleston. Dr. Black succeeds Dr. M. I. Mendeloff, who served during the year 1931. Other officers elected at this meeting were Dr. B. S. Preston, vice-president, and Dr. M. F. Petersen, secretary-treasurer.

The scientific program was presented by Dr. Wilson Pendleton of Asheville, North Carolinia, who read a paper on "An Appraisal of the Tuberculous Patent." The paper was accompanied by lantern slides and was followed by a liberal discussion. A motion picture entitled "Cancer of the Skin," was also presented at this meeting.

A joint meeting of the Kanawha Medical Society with the Kanawha Dental Society is scheduled for January, at which time the new officers will be installed.

W. E. HOFFMAN, Secretary.

MONONGALIA COUNTY

Dr. B. C. John was elected president of the Monongalia County Medical Society at the December 1 meeting, which was held at the Elks Club, Morgantown. Dr. John will serve during 1932 and will succeed Dr. G. W. Phillips. Dr. C. C. Romaine was elected vice-president; Dr. G. R. Maxwell was reelected secretary and Dr. Eldon B. Tucker was reelected treasurer.

Other positions filled at this meeting included the election of Dr. R. W. Fisher as a member of the Board of Censors and the election of Dr. H. C. Powell and Dr. F. T. Scanlon as delegates to the state meeting at Parkersburg next June. Dr. Carl E. Johnson and Dr. C. B. Pride were elected as alternates.

The election of officers was preceded by a dinner at 6 o'clock at the Elks Club. This was a splendid meeting with an excellent attendance.

G. R. MAXWELL, Secretary.

FAYETTE COUNTY

A fine meeting of the Fayette County Medical Society was held at Fayetteville on the evening of December 8, with an excellent attendance. The scientific program was presented by Dr. L. R. Harless, Gauley Bridge, who gave a paper on "Botalism," and by Dr. J. E. Coleman, Fayetteville, on "The Relation of the General Practitioner and the Health Officer." Both papers were liberally discussed.

The election of officers for 1932 was held and Dr. C. W. Stallard, Montgomery, was elected president to succeed Dr. J. M. Spinks, Mount Hope. Dr. Spinks was elected first vice-president; Dr. E. E. Jones, Mount Hope, was elected second vice-president, and Dr. W. P. Bittinger, Summerlee, was elected secretary-treasurer. Dr. Bittinger will succeed Dr. W. V. Wilkerson, Montgomery.

BARBOUR-RANDOLPH-TUCKER

Dr. O. L. Perry of Elkins was elected president of the Barbour-Randolph-Tucker Medical Society in a meeting that was held in Elkins on the evening of December 15. Dr. Perry succeeds Dr. W. E. Whiteside, Parsons.

Other officers elected were Dr. F. S. Holsberry, Parsons, and Dr. E. M. Hamilton, Belington, vice-presidents; and Dr. W. M. Junkin, Elkins, secretary-treasurer. Dr. Junkin will succeed Dr. J. C. Irons, who died early in December.

The essayist of the evening was Dr. W. E. Whiteside, who read a thought-provoking paper on "Should Uncle Sam Care for the Veterans, and How?" This paper was discussed by every member present at the meeting.

MERCER COUNTY

The annual banquet and election of officers of the Mercer County Medical Society was held at the West Virginian Hotel, Bluefield, on the evenin of December 17 with forty-two members and guests present. At this meeting, Dr. W. D. Fitzhugh, McComas, was elected president; Dr. J. I. Markell, Princeton, vice-president; Dr. R. R. Stuart, Bluefield, secretary, and Dr. H. G. Steele, Bluefield, treasurer.

The scientific program was furnished by Dr. H. G. Steele, who gave a case report on "Pruritis of Pregnancy," which was freely discussed by the members present.

Other business transacted at this meeting included the reduction of dues to $12 per year, and a change from four to ten meetings each year. The society also elected Dr. Ben Bird, Princeton, an honorary member of the society. Dr. W. M. Harloe, Matoaka, was elected to membership under a suspension of the rules.

Delegates elected to represent the Mercer County Medical Society at the state meeting at Parkersburg next June were Dr. Uriah Vermillion, Athens; Dr. T. E. Vass, Bluefield, and Dr. R. R. Stuart, Bluefield. Alternates elected were Dr. W. D. Fitzhugh and B. S. Clements, Matoaka.

R. R. Stuart, Secretary.

CENTRAL WEST VIRGINIA

An excellent meeting of the Central West Virginia Medical Society was held at the Dixon Hotel, Summersville, on the evening of December 18, with twenty-four members and visitors present. A banquet was served at the hotel prior to the business and scientific session.

The annual election of officers was held at this meeting and Dr. W. H. McCauley of Sutton was elected president for 1932. He will succeed Dr. Hugh Dunn of Richwood. Dr. J. W. Smith of Gassaway was elected vice-president, and Dr. R. A. McCosh of Richwood was reelected secretary-treasurer.

The scientific program was presented by Dr. T. M. Barber and Dr. J. P. Lilly, Charleston. Dr. Barber presented a paper on "Treating the Well Child," and Dr. Lilly read a paper on "Some Practical Obstetrical Problems." Both of these papers were interesting and instructive and were discussed at length by the members present. A four reel medical motion picture on "Traumatic Surgery" was also presented at this meeting.

R. A. McCosh, Secretary.

TYLER-WETZEL

Tentative plans for incorporating Pleasants county into the Tyler-Wetzel Bi-county Medical Society are now being talked over and it is hoped that the combination can be effected soon. The Pleasants county doctors have, for some time, been regular attendants at the Tyler-Wetzel meetings.

Dr. R. H. Leu, New Martinsville, who recently retired as secretary of the Tyler-Wetzel society, was painfully injured on November 21 when his automobile collided with a truck. Two lower ribs were fractured. Dr. Leu was recently elected as Commander of American Legion Marne Post No. 28 at New Martinsville.

MARION COUNTY

The regular monthly meeting of the Marion County Medical Socety was held at the Fairmont Hotel on the evening of November 24 with an excellent attendance. The essayist was Dr. J. Lewis Blanton, Fairmont, who presented a most interesting paper on "Malnutrition During Early Childhood." This paper was ably discussed by Dr. George Traugh and Dr. C. L. Holland.

The meeting was preceded by a dinner at the hotel. The election of officers for the coming year was set for the next meeting, to be held on December 29.

Philip Johnson, Secretary.

PUBLIC HEALTH

PUBLIC HEALTH MEETING

Announcement has just been made that the sixty-first annual meeting of the American Public Health Association will be held in Washington, D. C., on October 24-27, 1932. Headquarters will be at the Willard Hotel. The program committee for the annual gathering will hold its first meeting in January. Additional information concerning the 1932 meeting may be obtained from the American Public Health Association, 450 Seventh Avenue, New York City.

HEALTH EDUCATION LECTURES

The Health Education Foundation of the Academy of Medicine of Cleveland is presenting to the public a series of three health lectures on subjects of interest to the general public. The lectures are to be presented on the Sunday afternoons of December 6, January 17, and March 20. The essayists will be Dr. Elliott C. Cutler, professor of surgery; Dr. Henry J. Gerstenberger, professor of pediatrics; and Dr. R. W. Scott, professor of clinical medicine, all of Western Reserve University. The lectures were made possible by a gift to the Foundation from the S. M. A. Corporation of Cleveland.

NEW DOCTORS LICENSED

Twenty-seven doctors were granted license to practice medicine in West Virginia as a result of medical examination held recently in Morgantown in November. Sixteen of the applicants took the state medical examinations. The other eleven applicants were from states with which West Virginia has reciprocal agreements regarding the licensing of physicians.

Those passing the state medical examinations were: Clarence E. Lewis, Charleston; Wallace B. Murphy, Grafton; Frank P. Coleman, Sharon; John H. Trotter, Morgantown; John H. Murphy, Wheeling; James L. Thompson, Weirton; J. Norman Reeves, Piedmont; W. A. Bevacqua, Charleston; Leora Perry, Kingwood; Roy O. Halloran, Hinton; Jos. A. Markley, Wheeling; John Paul Trach, Fairmont; W. R. Yeager, Parkersburg; Harry G. Butler, Welch; P. E. Berry, Jr., Piedmont; Arkie B. Bowyer, Staten Island, N. Y.

The doctors granted license through reciprocity were: Milton Wolpert, Charleston; James Lawrence Hager, Charleston; Wm. F. Pomputius, Kimberly; Clyde Hoke Hemphill, South Charleston; Margaret B. Ballard, Greenville; John Howard Greene, Slab Fork; William Thomas Davis, Murphysboro, Illinois; James R. Brown, Huntington; Jos. Hallock Moore, Huntington; Don Shelly Benson, Wheeling; John Chas. F. Wilkinson, Wheeling.

It was announced that the next meeting of the Public Health council will be held at the state health department March 22 to 25, at which time examinations will again be held.

PELLAGRA PREVENTIVES

The United States Public Health Service has recently completed a study of the pellagra preventive potency of canned spinach, canned turnip greens, mature onions, and canned green beans. These studies are of value, as they indicate the efficiency of these vegetables in the prevention of pellagra.

Canned spinach supplies the pellagra-preventive vitamin, but can not be regarded as especially rich in it. It is, however, considered an important contributory source of this factor. Canned turnip greens supply the pellagra preventive vitamin and, at least in liberal quantity, adequately supplement an otherwise pellagra-producing diet. This substance meets many of the requirements of a practical and effective dietary supplement in the pellagrous sections. The mature onion is a very poor source of the pellagra-preventive vitamin. Canned green beans are, relatively, a poor source of the pellagra-preventive vitamin.

INCIDENCE OF INFLUENZA

The United States Public Health Service has recently completed a statistical study of the age and sex variation in cases of influenza and pneumonia. This study summarizes the age and sex variation in influenza and pneumonia morbidity and mortality during the 1928-29 and the 1918-19 epidemics. It is based on canvasses following each epidemic of families including nearly 150,000 persons in about twelve localities in the United States.

While there are some similarities in the 1928-29 and 1918-19 age curves, the differences are more striking than the similarities. The young adult peak in pneumonia incidence and in mortality in 1918-19 was absent in 1928-29.

Pneumonia incidence and the death rate were

both much higher in 1918-19 than in 1928-29 but the percentages of pneumonia cases that were fatal were not greatly different in the two epidemics. There was a very large difference in the percentage of cases complicated by pneumonia in the two epidemics; but once pneumonia existed, the chance of fatal outcome was nearly the same in both years.

Statistical data of this kind give no clue as to the reason for the strikng difference in age incidence in the two epidemics, and any attempt at explanation would be only conjecture.

QUARANTINE RELEASE

Release from contagious disease can be sane and yet be safe for those who will come in contact with the person previously ill. Since the notion of spontaneous generation of life has been exploded, precaution against disease can be comparatively simple. The greatest danger lies not in the bedding, books and magazines the patient has used, but in the patient himself. Fumigation is not necessary. A good soaping, airing and cleaning of articles in contact with the patient is sufficient. Apparent recovery of the patient, moreover, is not an indication of safety to others. The doctor's duty ends with the recovery of the patient; he has nothing to say about when the patient will be released. That duty is left to the health department in consideration of the welfare of the community. There is no mystery to release, Dr. W. W. Bauer emphasizes in the last of his series of articles in *Hygeia*. "It is cheap. It requires only four ingredients: hot soapy water, sunshiny fresh air, elbow grease and horse sense."

AUXILIARY MEETING

The Woman's Auxiliary to the Central West Virginia Medical Society met in the Dixon Hotel, Summersville, on the evening of December 18 to elect officers for the ensuing year. Mrs. M. T. Morrison, Sutton, was elected president; Mrs. C. C. Carson, Gassaway, vice-president; and Mrs. H. L. Trippett, Buckhannon, secretary-treasurer. Mrs. Flavius Brown, Summersville, was admitted as a new member. Mrs. S. P. Allen, Webster Springs, is the retiring president of the Central West Virginia Auxiliary.

HOSPITAL NEWS

CHARITY AND TAXES

The attention of the Hospital Association of West Virginia was recently called to a news article in the *Bluefield Daily Telegraph* in regard to house bill 359, passed by the 1931 legislature, allowing tax credit to West Virginia hospitals for certain types of charity cases. The article mentioned eight specific cases filed by the Stevens Clinic and conveyed the impression that there was something "off-color" in this new law. The article also set forth that no one in McDowell county seemed to know anything about the new statute until the Stevens Clinic claims were filed.

The news article was answered by the executive office of the Hospital Association and the answer was published in the *Welch Daily News*.. In order to give all hospitals a more thorough knowledge of the new hospital tax law and a better understanding of its purpose, the JOURNAL is publishing the answer herewith.

Following an introductory paragraph calling attention to the original article, the Association's answer stated: "In fear that the law might be misunderstood, we would appreciate the opportunity of explaining its provisions and limitations.

"The chief point we desire to bring out is that this new law is only for the indigent sick and that no indigent patient, under any circumstances, can be hospitalized under the law without the written approval of either the sheriff, prosecuting attorney, or county commissioner of the county in which hospitalization is made. The patient must also be a bona fide resident of that county, and his economic status must be investigated thoroughly by the county official who orders the hospital treatment.

"The hospitals themselves have nothing to do with the question of the law, for the law can only be utilized by the county officials listed above. Ordinarily most counties have special funds to provide necessary hospitalization for their poor families. If a county has no such fund, or if the fund is exhausted, the county officials can fall back on the provisions of house bill 359 to take care of needy and worth-while cases.

"Let us suppose, after due investigation, that the sheriff of a county orders the hospitalization of an indigent patient. After the patient has recovered

the hospital, of course, presents its bill to the county. If the county has a special fund for the purpose the hospital is paid from that fund. If such funds are exhausted, the sheriff deducts the amount of the bill from the taxes charged against the hospital. Under the latter plan, the hospital is simply paying a part of its taxes in advance. All hospitals, quite naturally, would prefer to have their bills paid in cash if funds are available.

"Many persons, not familiar with this new law, believe that the hospitals can charge off their charity cases against their taxes. That is not the case at all. The hospitals of West Virginia do thousands and thousands of dollars worth of charity work each year for which they do not receive one cent. If a hospital accepts a charity case, as such, it expects to stand the expense of caring for the case. If a county accepts a charity case and orders hospitalization, then certainly the county should stand that expense.

"We often hear of hospitals turning away charity cases. In fact, we hear much more about the cases turned away then we do about the cases that are taken in. We should bear in mind that the charity cases turned away are not emergency cases. If the hospitals did not draw the line somewhere, there could be no hospitals. A hospital, like a grocery or clothing store, can not operate by giving away what it has to sell. Every hospital does give its services to the poor to the very limit, but beyond that limit it can not go. Surely no hospital could be expected to carry its own burdens and the burdens of the county as well.

"House bill 359 was introduced by Delegate A. J. Lubliner of Mercer county. It was supported by practically all of the leaders in both the House and the Senate. When the bill came up for passage in the Senate it was freely debated and received the hearty commendation of every senator who spoke on the subject. Governor W. G. Conley, who vetoed many measures passed at the legislative session, signed house bill 359 so it could become a law of the state. The bill received considerable attention in the state press and many West Virginia newspapers carried editorials favoring its passage.

"In view of the above, it can hardly be said that house bill 359 was slipped through the legislature "on the quiet." It is true that the debates on taxation, water power, and other matters closer to the hearts of the people did overshadow many other worth-while measures under consideration. But it is also true that house bill 359 received the publicity and attention that is usually incident to the passage of any new statute.

"In closing, let us say again that there is no connection, under the provisions of house bill 359, between the charity cases taken in voluntarily by the hospitals and the charity cases sent to the hospitals by the county officials. The hospitals will always do all they can for the indigent sick. House bill 359 provides a means whereby the counties can go one step further, in case they desire to do so."

HOSPITAL PUBLICITY

The *Journal of the American Medical Association*, in a recent editorial dealing with the dissipation of suspicion and antagonism toward hospitals by the public, suggests that the development of some form of publicity by hospitals for the community might help solve this problem.

Publicity by a hospital must, of course, meet the restrictions of ethical publicity as laid down by the A. M. A., and concurred in by other organizations, but this is not an impossible task, and as a matter of fact, these restrictions are being met by a number of reputable hospitals which are carrying on an effective educational program in their communities.

The editorial in the *Journal of the American Medical Association*, referred to, reads, in part, as follows:

"The present period is one of education. Leaders have realized that much more can be accomplished through education and by taking the patient into confidence than can possibly be achieved by dictatorial methods. The scientific atmosphere is strange to the uninformed mind. In a recent conference on hospital service, the superintendent of a Pennsylvania institution displayed a group of pamphlets circulated by his hospital to the community, explaining to the uninformed the reasons for extra charges for the use of the operating room, for laboratory service and for similar extras on the patient's bill. Reasoning human beings seldom protest when they are informed. The solution to the hospital's problem would seem to be the development of some form of publicity that would enable the average man to know the why and wherefore of modern medical and hospital methods. Large institutions and large corporations employ specially trained individuals for this purpose. Hospitals might be able to find among their employees some one who could undertake a similar service, particularly for them."

GENERAL NEWS

DR. HOGE TAKES OFFICE

After an eventful and successful year as president of the West Virginia State Medical Associaton, Dr. C. H. Maxwell, Morgantown, turned over the duties of his office on January 1 to President-elect Albert H. Hoge, Bluefield. Thus the presidency passed from one pair of good hands to another.

Perhaps the most outstanding accomplishment of Dr. Maxwell's administration was the successful legislative campaign conducted during the session of the legislature last winter and spring. Dr. Maxwell has guided the destiny of the Association with an experienced hand. The membership of the Association, in spite of the depression, has held its own. The JOURNAL showed a larger profit this past year than ever before. The cost of conducting the affairs of the Association was materially reduced in 1931. The Association has prospered under Dr. Maxwell and he leaves it in a healthy and thriving condition.

C. H. Maxwell, M. D. His Term Expires

Dr. Hoge is unusually well equipped to take over the responsibility for the welfare of organized medicine in West Virginia. He has been a diligent worker in the Association for many years and he begins his administration with a thorough understanding of its problems. Dr. Hoge has long been a student of medical economics and he has a clear perspective of West Virginia's medical picture. Under his leadership, the Association is looking forward to a brilliant year of success and achievement.

Albert H. Hoge, M. D., Incoming President

With the beginning of 1932, Dr. Maxwell's name goes into the long list of honored and beloved former presidents. The Association expresses its deep appreciation for his year of successful leadership. And the Association extends its hearty greeting of welcome to Dr. Hoge.

CENTRAL TRI-STATE

The next quarterly meeting of the Central Tri-State Medical Society will be held at the Hotel Pritchard on the afternoon of January 21, 1932. Three papers will be presented, starting promptly at 2 o'clock.

The scientific essayists and their subjects will be Dr. Harold Thomas Hyman, New York City, "Pharmacology of Circulatory Drugs, Including Recent Observations On the Use of Drugs in

Hypertension"; Dr. A. C. Furstenburg, Associate Professor of Otology, University of Michigan, "Acute Suppurations in the Throat, Neck and Mediastinum"; and Dr. George W. Crile, Cleveland, "A New Principle in the Prevention of Post-operative Pneumonia, Cardiac Decompensation and Suppression of Urine."

Dr. James Klumpp, Huntington, secretary of the Central Tri-State Society, has announced that the second annual Claude A. Latham Memorial meeting of the Medical Review Society would be held at the Pritchard on the evening of January 21. All visiting doctors have been invited to attend this memorial meeting, at which Dr. Crile will speak. Arrangements are now being made to hold a dinner for the doctors who remain over for the meeting of the Medical Review Society.

NEW COMMITTEE APPOINTMENTS

Dr. Albert H. Hoge, incoming president of the West Virginia State Medical Association, has recently announced the appointment of the Workman's Compensation committee for 1932. Dr. R. H. Walker, Charleston, is chairman. The members are Dr. Thurman E. Vass, Bluefield, and Dr. S. S. Hall, Fairmont.

Dr. Hoge has also announced the appointment of Dr. George Fordham, Powellton, as a member of the committee on Public Health. Dr. David Littlejohn, Charleston, is chairman of this committee.

A new committee on Public Policy and Legislation will be appointed shortly from a list submitted to Dr. Hoge by all past-presidents. The by-laws of the Association provide that this committee shall be appointed every five years from a list of two names each submitted by each past-president.

DIPLOMA MILLS AGAIN

Just a little over eight years ago the world was startled by the *St. Louis Star's* expose of the now-famous diploma mill racket in Missouri. With the awakening, Missouri cleaned house. Since that time, she has enjoyed the fruits of her victory over charlatanism.

Three months ago a new attempt was made to establish a diploma mill in Missouri. The investigation of the proposed school, and the result of the investigation, is of such interest that we publish herewith the complete account which appeared in the December issue of the Journal of the Missouri State Medical Association. The article follows:

In October, 1923, St. Louis and Missouri supplied front page news for the press of the country when the *St. Louis Star* exposed the medical diploma mill which had its headquarters in the St. Louis College of Physicians and Surgeons. Here one could buy a diploma for whatever sum he might scrape together. Ultimately, the Missouri Supreme Court revoked the charter of the school for fraudulent practices. Another school in Missouri was involved in the medical diploma mill, the Kansas City University of Physicians and Surgeons and the Supreme Court revoked the charter of that school on similar grounds. The ink was scarcely dry on the mandates of the Court before new charters had been obtained.

Eight years later, that is to say, in October, 1931, a petition was filed with Honorable William H. Killoren, Judge of Division 5 of the Circuit Court of St. Louis, asking that a pro forma decree of incorporation be granted the National College of Medicine and Surgery in St. Louis. Judge Killoren appointed former Judge Harry E. Sprague amicus curiae and to Judge Sprague may be accredited the inauguration of the new era. It is not front page stuff but to the medical profession it is a most gratifying indication that our efforts to clean up the medical college field have not been fruitless. The issuance of a pro forma decree of incorporation of a philanthropic or educational institution has hitherto been a very perfunctory action by the courts. When, however, Judge Sprague read the petition for the incorporation of a medical school which frankly stated that the intention of the petitioners was to establish a low grade or grade B school he was mindful of the incalculable damage that the people had suffered by the machinations of the owners of the two schools whose charters had been revoked. Instead therefore of pursuing the usual tactics of the amicus curiae and putting his O. K. on the petition after a cursory examination he made a searching investigation of both the petitioners and of the purpose of the college.

Judge Sprague found that only one of the petitioners had even slight experience in the conduct of a medical school. This was William F. Walker, a graduate of the St. Louis College of Physicians and Surgeons but not licensed to practice in Missouri. Walker did obtain a license to practice in Arkansas and after thirteen months in that state applied for a license in Missouri by reciprocity with Arkansas. The Missouri State Board of Health refused to issue a license to him and thereupon he filed a mandamus suit to compel the board to issue a license to him. The lower

courts refused to grant the mandamus and Walker appealed to the Supreme Court where the suit is now pending.

The other petitioners were F. E. Deal, who is said to be in the advertising business and was proposed as the president of the institution, and William R. MacCready, an insurance broker. Neither of these men had any knowledge of medicine or the teaching of medicine.

In the articles of incorporation the school would be authorized to teach medicine, surgery and homeopathy and to maintain a clinic and hospital and be organized as a class B institution.

The petitioners stated that they were the representatives of four men who agreed to subscribe $100,000 to finance the proposed college but refused to reveal their identity. This desire for secrecy, they said, was based, first, upon an inclination to avoid solicitations of physicians who might seek employment on the hospital staff; and further, because these men had friends in the American Medical Association and professed to be in accord with the standards of that association. They did not desire to disclose their identity until the establishment of the college had become definitely assured.

The application for incorporation in St. Louis was in the name of the National College of Medicine and Surgery but a permit had been obtained in Kansas City in the name of the Missouri College of Naturopathic Physicians and Surgeons. Deal told Judge Sprague that the group had originally planned to operate the college and hospital under the charter obtained in Kansas City with Dr. Edward J. Burns, Kansas City, a chiropractor, as superintendent, but they had severed relations with that group. The records of the St. Louis Health Department show that an application was made for permission to operate a college, hospital and clinic in St. Louis. The persons named in the application were, W. F. Walker, Daniel H. Reeder, Edward J. Burns, Robert H. Burns, and F. E. Deal.

In his exhaustive investigation Judge Sprague questioned the petitioners most searchingly; he also conferred with the officers of the Missouri State Medical Association and the St. Louis Medical Society and with Dr. E. P. North, St. Louis, a member of the Council on Medical Education and Hospitals of the American Medical Association, and Dr. James Stewart, Jefferson City, secretary of the state board of health He found that none of these organizations recognized a class B medical school; that if the decree were issued and the school became established it would then be investigated and rated according to the minimum standards of the American Medical Association and the state board of health; that if the school failed to meet these minimum standards it would not be approved by the American Medical Association nor by the state board of health; that, in such event, the graduates, if any, would be debarred from taking the examination for a license in practically all the states in this country.

Under these circumstances Judge Sprague recommended to the court that the decree be not issued.

The petitioners evidently discovered that they were experiencing some difficulty in convincing Judge Sprague of the necessity of such an institution and they requested the court through their attorney, Mr. J. Henry Caruthers, permission to withdraw the petition. Judge Sprague declined to agree with this request because he desired the petitioners to appear in court and in their presence to read the evidence he had gathered in order "to prevent, once and for all, the establishment of the college."

The petitioners did not appear and Judge Sprague filed his report with the court. Thereupon Judge Killoren rendered his decision as follows:

"In view of the opinion as disclosed by the report of the amicus curiae, the order of the court will be that the petition for pro forma decree of incorporation filed by the petitioners herein will be denied."

Judge Sprague has established a standard from which there should be no deviation in future when the amicus curiae undertakes to advise the court what action should be taken on a petition for the incorporation of a medical school in Missouri, or indeed in any other state. The most searching investigation should be made into the character of the petitioners, their purposes in attempting to establish a medical school, the privileges granted the school under the articles of incorporation and how those privileges might affect the welfare of the community. Nothing short of this should satisfy the amicus or the court. If the school is a needed institution and if the petitioners are reputable citizens imbued with the spirit of true philanthropy they will welcome this sort of inquiry. Petitioners with less noble instincts if entrusted with such broad

powers as must necessarily be granted in the establishment of a medical school can be nothing but a menace to the welfare of a community and their petition should be denied.

YOUR 1932 DUES

The 1932 dues of the county societies and the West Virginia State Medical Association are due and payable in January, 1932. County secretaries should make every effort to collect the dues of each member in the month of January, so that the remaining eleven months may be devoted to the scientific welfare of the society. Members, in their turn, should do their part by sending in their checks and thereby lightening the burdens of their county secretaries as much as possible.

For the newer members of the Association, the following explanation is made of the requirements and penalties connected with the payment of dues. The fee should be paid during the first month of each year. However, no penalty is exacted until the first day of April of each year. On April first the names of all members who have not paid their dues are removed from the records of the Association and from the mailing list of the JOURNAL. These names are placed in the delinquent file.

At any time during the year, a delinquent member may be reinstated by paying his dues. Between April first and the time the dues are paid, however, the member is excluded from taking any part in the affairs of his county society and the state association. If a member has not paid his assessment on the last day of the year, he is then suspended and must petition for reinstatement. Also, his petition must be accompanied by a check for all back dues.

The newer members of the Association may be interested to know just what becomes of the assessment they turn over each year to their county secretaries. All of the amount over $10 is retained by the county society as county society dues. If a member is a participant in the medical defense fund, the sum of $10 is sent to the state association. Otherwise only $9 is sent. This amount, supposing that it is $10, is divided as follows:

One dollar of the amount goes into the indigent fund which is set aside for the purpose of aiding aged and infirm members of the Association who are actually in want. One dollar goes into the medical defense fund, which is set aside for the purpose of assisting any member against whom a malpractice suit is brought. Two dollars is set aside for the JOURNAL subscription. This leaves a balance of six dollars which goes into the general fund of the Association for actual operating expenses.

With approximately 1,000 members of the Association, a rough estimate of the income of the various funds is easily made. Both the indigent and medical defense funds take in approximately $1,000 each year, approximately $2,000 is set aside for JOURNAL subscriptions and the balance of $6,000 goes to operating expense.

JUNIOR MEDICAL OFFICER

The United States Civil Service commission has announced an open competitive examination for the office of junior medical officer (interne). The examination is to fill vacancies in Saint Elizabeth's Hospital, Washington, D. C. The entrance salary is $2,000 per year, less $60 a year for quarters.

Competitors will not be required to report for examination but will be rated on education, training, and experience. Full information may be obtained from the secretary of the United States Civil Service board of examiners at the post office in any city, or from the United States Civil Service commission, Washington, D. C.

COLLEGE OF SURGEONS TO MEET

A sectional meeting of the Pennsylvania, Ohio, and West Virginia fellows of the American College of Surgeons will be held at the William Penn Hotel, Pittsburgh, on January 25-26. A general invitation to attend this session has been extended to all members of the medical profession in the three states. Every effort is being made to assure an instructive and interesting meeting.

Operative clinics and demonstrations in general surgery and surgical specialties will be held on both mornings that the meeting is in progress. These clinics will be held at the various hospitals in Pittsburgh. There will also be two round-table conferences on hospital problems. A number of distinguished surgeons, health leaders, and hospital authorities will appear on the two-day program.

FOUNDER'S DAY ADDRESS

Admiral Cary T. Grayson, M.D., an alumnus of the Medical College of Virginia, Richmond, delivered its founder's day address on Tuesday, December 1. This marked the ninety-fourth session of the institution. His subject was "The Modern Trend of Medicine."

MONTHLY MORBIDITY REPORT

BY COUNTIES

NOVEMBER 1931	Tuberculosis, All Forms	Chickenpox	Diphtheria	German Measles	Typhoid Fever	Hookworm Disease	Tularemia	Influenza	Measles	Meningitis, Cer. Spi.	Whooping Cough	Poliomyelitis	Scarlet Fever	Smallpox	Trachoma
Barbour					4										
Berkeley			3										3		
Boone	1		9		1						1		1		
Braxton			6		3								1		
Brooke	4	1	3	9							1		16		
Cabell	24	7	8										2		
Clay			4		14						20				
Doddridge					1			17					4		
Fayette		36	16		5				127		1		2	1	
Gilmer					3								1		
Grant		1						6	8				6		
Greenbrier	1	2	9										2		
Hampshire					3								3		
Hancock	2	2	1								1	1	10		
Hardy					7										
Harrison		100	9		1				548		28	1	40		
Jefferson		4	10					4	1		8		4		
Kanawha	6	67	28		31			1	9		23		17		
Lewis			1												
Lincoln	1		3		9										1
Logan	1	4	10		12								5	1	
Marion		3											4		
Marshall		1			2						9		7		
Mason	1		4								2		2		
Mercer		3	27		12			12			2		28		
Mineral	8		1	3		2		6	9		12		9		
Mingo		5	10		2										
Monongalia		1	10		7				2		2		4		
Morgan					6								3		
Nicholas			7		5	1									
Ohio	10	26							1	1	42		13		
Pleasants													4		
Pocahontas				1				6					1		
Preston		1			2				1		38		1		
Putnam	1		1												
Raleigh	3	4	15		6				8		3		13		
Randolph			5		1								8		
Ritchie													2		
Summers			2		2								6		
Tucker			2										1		
Tyler		1		2	1			2					2		
Upshur	1		1								3				
Wayne	1		2					1			4		2		
Webster			1		1										
Wirt			1							1					
Wood		14	18		3		3		1	1	14		21		
Wyoming					8								1		
Total	65	283	227	15	152	3	3	55	715	3	214	2	249	2	1

ACTIVE AND HONORARY MEMBERSHIP
OF THE
WEST VIRGINIA STATE MEDICAL ASSOCIATION

(Editor's Note: Below will be found the names of all active and honorary members in good standing in their respective county societies and in the West Virginia State Medical Association. All former members whose 1931 dues were not paid by December 31 were dropped from the Association records. In the following roster the asterisk (*) appearing before a name indicates honorary membership.)

Barbour-Randolph-Tucker Society

H. H. Bolton, Pierce
A. P. Butt, Elkins
R. J. Condry, Elkins
W. R. Dove, Harman
E. M. Dunstan, Elkins
B. I. Golden, Elkins
E. Meudel Hamilton, Belington
C. H. Hall. Elkins
Wm. M. Junkin, Elkins
Guy H. Michael, Belington
Willis S. Michael, Norton
Jos. L. Miller, Thomas
Wm. L. Miller, Bemis
S. B. Moore, Elkins
H. K. Owens, Elkins
C. G. Stroud, Brownton
J. M. Teter, Century
C. T. Upchurch, Galloway
W. E. Whiteside, Parsons
C. B. Williams, Philippi
Russell S. Wolfe, Elkins
*John L. Bosworth, Mill Creek
*J. W. Bosworth, Philippi
*O. L. Perry, Elkins
*L. W. Talbott, Elkins
*A. H. Woodford, Belington

Brooke County Society

L. J. Bernstein, Wellsburg
F. T. Dare, Wellsburg
F. L. Matson, Wellsburg
A. E. McClue, New Cumberland
John A. McCurdy, Wardood
J. S. McCullough, Follansbee
W. J. McDonald, Wellsburg
James P. McMullen, Wellsburg
Ray C. Otte, Wellsburg
E. N. Pell, Beech Bottom
*B. F. Harden, Wellsburg

Cabell County Society

James H. Baber, Huntington
H. E. Beard, Huntington
W. F. Beckner, Huntington
Oscar B. Biern, Huntington
James R. Bloss, Huntington
R. M. Bobbitt, Huntington
H. A. Brandebury, Huntington
B. F. Brown, Huntington
F. A. Brown, Huntington
C. M. Buckner, Huntington
V. L. Chambers, Huntington
Albert W. Crews, Huntington
D. J. Cronin, Huntington
R. H. Curry, Barhoursville
J. W. Ferguson, Kenova
C. P. S. Ford, Huntington
B. D. Garrett, Kenova
W. E. Gattenns, Huntington
J. A. Guthrie, Huntington
R. Hardwick, Huntington
Ivan R. Harwood, Huntington
H. D. Hatfield, Huntington
C. M. Hawes, Huntington
J. S. Hayman, Huntington
W. D. Hereford, Huntington
I. C. Hicks, Huntington
I. I. Hirschman, Huntington
F. C. Hodges, Huntington
Frederick J. Hoitash, Huntington
J. E. Hubbard, Huntington
E. J. Humphrey, Huntington
W. Boyd Hunter, Huntington
Arthur S. Jones, Huntington
G. D. Johnson, Huntington
A. T. Jordon, Hurricane
J. R. Keesee, Huntington
A. D. Kessler, Huntington
A. K. Kessler, Huntington
J. S. Klumpp, Huntington
W. M. Lewis, Huntington
H. V. Lusher, Huntington
Geo. M. Lyon, Huntington
A. R. MacKenzie, Huntington
H. C. Malcolm, Huntington
F. O. Marple, Huntington
H. B. Martin, Huntington
W. Edwin Matthews, Huntington
J. C. Matthews, Huntington
M. B. Moore, Huntington
T. W. Moore, Huntington
Lon C. Morrison, Milton
W. E. Neal, Huntington
J. Lester Patterson, Carvon
K. C. Prichard, Huntington
J. E. Rader, Huntington
Gilbert A. Ratcliff, Huntington
Chas. O. Reynolds, Huntington
E. E. Rose, Huntington
W. N. Rowley, Huntington
F. X. Schuller, Huntington
Francis A. Scott, Huntington
E. E. Shafer, Huntington
D. B. Sher, Huntington
R. M. Sloan, Huntington
J. H. Steenbergen, Huntington
W. W. Strange, Huntington
W. C. Swann, Huntington
C. T. Taylor, Huntington
I. W. Taylor, Huntington
W. C. Thomas, Huntington
R. S. VanMeter, Huntington
Walter E. Vest, Huntington
George W. Walden, West Hamlin
S. P. Walker, Huntington
C. W. Warnock, Huntington
R. J. Wilkinson, Huntington
C. G. Willis, Huntington
C. B. Wright, Huntington
R. M. Wylie, Huntington
A. Bromley York, Huntington

Central West Virginia Society

S. P. Allen, Webster Springs
F. H. Brown, Summersville
H. S. Brown, Sutton
C. C. Carson, Gassaway
J. B. Dodrill, Webster Springs
Hugh Dunn, Richwood
O. O. Eakle, Sutton
W. E. Echols, Richwood
E. S. Frame, Fenwick
M. F. Gruber, Erhacon
James K. Guthrie, Buckhannon
S. S. Hall, Buckhannon
L. O. Hill, Camden-on-Gauley
W. H. McCauley, Sutton
R. A. McCosh, Richwood
M. T. Morrison, Sutton
J. A. Rusmisell, Buckhannon
Everett Walker, Adrian
*Fleming Howell, Buckhannon
*J. L. Pifer, Buckhannon

Doddridge County Society

A. M. McGovern, West Union
A. Poole, West Union
E. T. Wetzel, West Union

Eastern Panhandle Society

A. O. Albin, Charles Town
E H. Bitner, Martinsburg
Edwin Cameron, Martinsburg
Roger Clapham, Martinsburg
James A. Duff, Martinsburg
A. B. Eagle, Martinsburg
Victor Glover, Martinsburg
W. T. Henshaw, Charleston
C. C. Johnson, Harpers Ferry
Geo. W. Martin, Martinsburg
W. J. Melvin, Shenandoah Junction
G. P. Morison, Martinsburg
T. K. Oates, Martinsburg
F. M. Phillips, Charles Town
Marvin H. Porterfield, Martinsburg
R. K. Shirley, Hedgesville
Clifford Sperow, Martinsburg
G. J. E. Sponseller, Martinsburg
P. E. Stigers, Hancock, Md.
Richard Talbott, Martinsburg
R. E. S. Taylor, Paw Paw
H. G. Tonkin, Martinsburg
W. A. Wallace, Martinsburg
E. H. Willard, Great Cacapon
*B. B. Ranson, Harpers Ferry

Fayette County Society

Templeton Adair, Mt. Hope
Arthur E. Bays, Boomer
F. W. Bilger, Maybeury
W. P. Bittinger, Summerlee
J. C. Brown, Nallen
B. F. Brugh, Montgomery
W. E. Bundy, Minden
A. J. Burkholder, Layland
J. E. Coleman, Fayetteville
G. O. Crank, Lawton
Gilbert Daniel, Beards Fork
George Fordham, Powellton
C. A. Gooch, Scarbro
Frank S. Harkleroad, Harvey
L. R. Harless, Gauley Bridge
W. N. Haynes, Victor
O. J. Henderson, Montgomery
G. G. Hodges, Kilsythe
Ralph Hogshead, Carbondale
A. L. Hunter, Pax
E. E. Jones, Mt. Hope

Wm. Ramsey Laird, Montgomery
H. C. Martin, Rainelle
J. A. McGraw, Cunard
C. G. Merriam, Sun
M. A. Moore, Kingston
R. S. Peck, Cannelton
H. H. Puckett, Fayetteville
J. S. Shaffer, Montgomery
D. W. Shirkey, Montgomery
Walter D. Simmons, Glen Ferris
G. W. Skaggs, Page
H. C. Skaggs, Montgomery
G. A. Smith, Montgomery
J. M. Spinks, Mt. Hope
C. W. Stallard, Montgomery
E. B. Thompson, Montgomery
J. F. Van Pelt, Oak Hill
J. W. Walker, Winona
H. A. Walkup, Mt. Hope
W. V. Wilkerson, Montgomery
C. L. Woodbridge, Montgomery
Robert P. Woods, Oak Hill
J. B. Woodville, Lansing

Grant-Hampshire-Hardy-Mineral County Society

J. G. Abbott, Piedmont
W. M. Babb, Keyser
Robert Bess, Keyser
Thomas Bess, Keyser
C. V. Brooks, Moorefield
H. F. Coffman, Keyser
W. G. Drinkwater, Gormania
V. L. Dyer, Petersburg
J. F. Easton, Romney
A. K. Fidler, Blaine
Wm. A. Flick, Keyser
T. C. Giffen, Keyser
Geo. S. Gochenour, Moorefield
J. B. Grove, Petersburg
W. G. Highberger, Maysville
S. B. Johnson, Franklin
Z. T. Kalbaugh, Piedmont
J. O. Lantz, Emoryville
Robert W. Love, Moorefield
Maurice H. Maxwell, Keyser
Glenn Moomau, Petersburg
B. F. Moyers, Matthias
J. A. Moyers, Franklin
H. W. Rollings, Wardinsville
Arnold A. Scherr, Keyser
J. W. H. Smith, Keyser
E. K. Wilson, Romney
P. R. Wilson, Piedmont
J. H. Wolverton, Piedmont
M. F. Wright, Burlington
*Frank L. Baker, Burlington

Greenbrier Valley Society

O. P. Argabrite, Alderson
H. L. Beard, Lewisburg
J. M. Cofer, Slaty Fork
J. W. Compton, Ronceverte
Jay R. Crawley, Anjean
J. W. DeVebre, Ronceverte
A. D. Ferrell, Ronceverte
T. L. Gilchrist, Pickaway
R. P. Good, Rainelle
H. L. Goodman, Ronceverte
H. D. Gunning, Ronceverte
J. E. Hamner, Rainelle
Guy Hinsdale, White Sulphur Springs
L. I. Hoke, Quinwood
Geo. F. Hull, Durbin
H. L. Kirkpatrick, Marfrance
J. G. Leech, Quinwood
C. F. Mahood, Alderson
S. A. McFerrin, Renick
W. E. Myles, White Sulphur Springs
A. G. Neil, Durbin
D. G. Preston, Lewisburg
N. R. Price, Marlinton
H. C. Solter, Marlinton
Edda Von Bose, Alderson
*W. P. Fawcett, Alderson

Hancock County Society

R. W. Alvis, New Cumberland
S. Berardelli, Weirton
M. Bogarad, Weirton
Geo. H. Davis, Weirton
J. E. Fisher, New Cumberland
R. L. Focer, Colliers
F. B. Harrington, Weirton
Marian Kizinski, Weirton
C. Moraitis, Weirton
G. E. Papadopoulos, Weirton
M. H. Powers, Weirton
J. E. Richmond, Weirton
George Rigas, Weirton
A. B. Rinehart, Weirton
L. O. Schwartz, Weirton
L. A. Whitaker, Weirton
Z. W. Wyatt, Weirton

Harrison County Society

C. S. Bates, Lumberport
B. S. Brake, Clarksburg
E. H. Brannon, Bridgeport
J. T. Brennan, Clarksburg
J. R. Carder, Clarksburg
S. L. Cherry, Clarksburg
F. C. Chandler, Bridgeport
R. S. Coffindaffer, Shinnston
I. D. Cole, Clarksburg
J. E. Corbin, Clarksburg
J. W. Corder, Clarksburg
D. P. Cruikshank, Lumberport
Edward Davis, Salem
W. M. Davis, Bridgeport
H. H. Esker, Clarksburg
C. Fred Fisher, Clarksburg
A. O. Flowers, Clarksburg
E. N. Flowers, Clarksburg
Earl N. Flowers, Clarksburg
John Folk, Bridgeport
William Gaston, Clarksburg
Wm. B. Gaston, Clarksburg
Thomas Gocke, Clarksburg
Wm. T. Gocke, Clarksburg
L. C. Goff, Clarksburg
Creed C. Greer, Clarksburg
O. S. Gribble, Clarksburg
Tbomas G. Harris, West Milford
H. H. Haynes, Clarksburg
E. A. Hill, Clarksburg
Robt. Carhart Hood, Clarksburg
Kenna Jackson, Clarksburg
C. C. Jarvis, Clarksburg
Jesse R. Johnson, Clarksburg
A. O. Kelley, Wallace
A. J. Kemper, Lost Creek
O. W. Ladwig, Wilsonburg
Frank V. Langfitt, Clarksburg
D. Leeson, Clarksburg
R. B. Linger, Lost Creek
R. V. Lynch, Meadowbrook
J. S. Maloy, Shinnston
W. A. Marsh, Clarksburg
B. F. Matheny, Clarksburg
John P. McGuire, Clarksburg
R. B. Nutter, Enterprise
R. J. Nutter, Clarksburg
C. R. Ogden, Clarksburg
R. L. Osborn, Clarksburg
W. T. Owens, Clarksburg
J. E. Page, Clarksburg
C. L. Pearcy, Salem
E. Pendleton, Clarksburg
A. T. Post, Clarksburg
Cecil O. Post, Clarksburg
S. H. Post, Volga
James Repass, Lumberport
R. M. Riley, Nutter Fort
Harry A. Rosenthal, Clarksburg
Sylvia Saurborne, Clarksburg
V. A. Selby, Clarksburg
B. F. Shuttleworth, Clarksburg
C. N. Slater, Clarksburg
H. E. Sloan, Clarksburg
W. W. Spelsburg, Clarksburg
J. E. Stevenson, Clarksburg
W. L. Strother, Wilsonburg
E. D. Tucker, Nutter Fort
E. F. Wehner, Clarksburg
H. Allen Whisler, Clarksburg
J. F. Williams, Clarksburg
E. A. Wilson, Salem
J. E. Wilson, Clarksburg
L. S. Wornal, Shinnston
Eugene B. Wright, Clarksburg
*T. M. Hood, Clarksburg
*D. C. Louchery, Clarksburg

Kanawha County Society

M. J. Alexander, Hichcoal
A. E. Amick, Charleston
A. L. Amick, Charleston
Maury Anderson, Dunbar
O. L. Aultz, Charleston
Bankhead Banks, Charleston
D. N. Barber, Owens
T. Maxfield Barber, Charleston
G. H. Barksdale, Charleston
S. L. Bivens, Charleston
W. P. Black, Charleston
B. V. Blagg, South Charleston
O. H. Bobbitt, Charleston
C. N. Brown, Swandale
R. J. Brown, Charleston
R. K. Buford, Charleston
E. H. Campbell, Carbon
L. M. Campbell, Red Sulphur Springs
J. E. Cannaday, Charleston
G. B. Capito, Charleston
T. J. Casto, Charleston
F. A. Clark, Charleston
V. T. Churchman, Charleston
V. T. Churchman, Jr., Charleston
C. E. Copeland, Charleston
E. A. Davis, Charleston
M. L. Dillon, Charleston
Ross M. Dodson, Charleston
J. W. Duff, Charleston
M. S. Duling, Charleston
J. L. Dunlap, Bancroft
R. H. Dunn, South Charleston
G. P. Fisher, Guthrie
C. A. Fleger, Prenter
C. M. Fleshman, Clendenin
Ray I. Frame, Sharples
Claude Frazier, Belle
A. J. Given, Ransford
H. R. Glass, Charleston
A. E. Glover, Van
Fred Gott, Charleston
R. E. Hamrick, St. Albans
J. H. Hansford, Pratt
A. J. Harness, Chelyan

E. R. Hatfield, Charleston
E. Rudyard Hays, Chelyan
E. Bennette Henson, Charleston
David H. Hill, Charleston
W. E. Hoffman, Charleston
H. H. Howell, Madison
W. R. Hughey, Charleston
J. Ross Hunter, Charleston
T. H. Hutchinson, Widen
R. A. Ireland, Charleston
G. G. Irwin, Charleston
L. A. Jarrett, Dunbar
E. V. Jordan, Charleston
Ray Kessel, Charleston
Russell Kessell, Charleston
H. C. Kincaid, Charleston
E. L. Lanman, Charleston
Harry D. Law, Charleston
J. P. Lilly, Charleston
C. B. Marshall, Nitro
W. P. McIntosh, Charleston
W. A. McMillan, Charleston
H. D. McPherson, Sharon
M. I. Mendeloff, Charleston
A. W. Milhoan, Nitro
John W. Moore, Charleston
Thomas W. Nale, Edwight
J. A. Newcomb, Prenter
J. T. Nolen, Elm Grove
R. O. O'dell, South Charleston
R. H. Paden, Charleston
M. F. Petersen, Charleston
S. H. Phillips, Charleston
W. W. Point, Charleston
Owen Poling, Nellis
F. G. Prather, Barrett
Phillip Preiser, Charleston
B. S. Preston, Charleston
Robert B. Price, Charleston
M. F. Raine, Charleston
Carl F. Raver, Charleston
C. A. Ray, Charleston
Thomas G. Reed, Charleston
Roy Ray, South Charleston
G. A. Rigrish, Charleston
J. E. Roberts, Charleston
G. C. Robertson, Charleston
H. L. Robertson, Charleston
Hugh Robins, Charleston
J. U. Rohr, Charleston
R. D. Roller, Jr., Charleston
J. E. Rucker, Charleston
C. C. Schoolfield, Charleston
C. G. Scruggs, Putney
Earl Shamblin, Charleston
A. A. Shawkey, Charleston
W. S. Shepherd, Charleston
G. W. Shriver, Charleston
J. R. Shultz, Charleston
R. R. Sisson, Galloway
J. S. Skaggs, Montcoal
J. W. Skaggs, Nitro
A. A. Smith, Clay
B. A. Smith, Spencer
J. A. Smith, South Charleston
E. W. Smoot, Madison
S. B. Souleyret, Chelyan
H. H. Staats, Charleston
E. H. Starcher, Sharples
B. H. Swint, Charleston
W. E. Taylor, Mammoth
John Thames, Charleston
Hugh G. Thompson, Charleston
A. C. Vandine, Charleston
E. O. Vaughan, St. Albans
R. H. Walker, Charleston
F. P. Weltner, Charleston
A. J. White, Charleston
A. A. Wilson, Charleston
Wirt B. Wilson, Charleston
W. H. Wilson, St. Albans
R. E. Woodall, Charleston
W. F. Work, Charleston
•Irwin C. Carlisle, Charleston

Lewis County Society

H. M. Andrew, Weston
G. M. Burton, Weston
S. H. Burton, Weston
D. D. Chapman, Spencer
E. R. Cooper, Troy
G. C. Corder, Jane Lew
John E. Corkrean, Jane Lew
M. D. Cure, Jr., Weston
Cecil C. Denham, Weston
Luke W. Frame, Rippon
E. T. W. Hall, Weston
O. L. Hudkins, Weston
D. P. Kessler, Weston
W. P. King, Weston
A. F. Lawson, Weston
E. R. McIntosh, Weston
Joseph A. Porter, Philadelphia, Pa.
Charles B. Rohr, Alum Bridge
Waitman T. Smith, Glenville
George Snyder, Weston

Logan County Society

L. L. Aultz, Omar
Z. M. Barden, Mallory
F. E. Brammer, Dehue
C. A. Davis, Logan
V. A. Deason, Logan
H. H. Farley, Logan
W. F. Farley, Holden
T. J. Ferrell, Chapmanville
W. S. Gilmer, Henlawson
J. O. Hill, Logan
Augustus Holderfield, Man
H. C. Jones, Logan
E. R. Logan, Omar
J. W. Lyons, Holden
C. A. Martin, Amherstdale
J. F. Mays, Rossmore
John W. McNabb, Monaville
D. T. Moore, Stirrat
W. H. Parker, Braeholm
Nathan Poliakoff, Augusta, Ga.
Wm. C. Polsue, Holden
R. W. Quaintance, Lundale
R. W. Roberts, Man
F L. Round, Holden
W. S. Rowan, Logan
B. D. Smith, Omar
L. E. Steele, Logan
Mark Sutphin, Logan
W. J. Thomas, Taplin
Harold Van Hoose, Whitman
R. R. Vaughn, McBeth

Marion County Society

J. M. Barr, Middleton
G. H. Brownfield, Fairmont
Carl J. Carter, Fairmont
J. B. Clinton, Fairmont
James C. Collins, Fairmont
W. L. Coogle, Rivesville
H. L. Criss, Fairmont
Luther C. Davis, Fairmont
F. E. Flowers, Mannington
Charles T. Francis, Fairmont
G. A. Granger, Jorden
C. O. Henry, Fairmont
C. L. Holland, Fairmont
Eugene A. Holland, Fairmont
H. L. Horton, Fairmont
E. W. Howard, Fairmont
L. D. Howard, Fairmont
J. J. Jenkins, Farmington
H. R. Johnson, Fairmont
Philip Johnson, Fairmont
H. S. Keister, Fairmont
D. J. Kindel, Fairmont
Luther R. Lambert, Fairmont
C. S. Lawson, Fairmont
Wm. J. Leahy, Mannington
George R. Miller, Fairview
T. H. Miller, Fairmont
G. V. Morgan, Fairmont
L. D. Morris, Fairmont
J. E. Offner, Fairmont
W. W. Orr, Mannington
C. L. Parks, Fairmont
P. F. Prioleau, Fairmont
C. M. Ramage, Fairmont
F. B. Rogers, Fairmont
S. J. Skarzenski, Davis
E. P. Smith, Fairmont
A. W. Smith, Fairmont
L. S. Smith, Monongah
F. F. Sowers, Fairmont
A. H. Stevens, Everettsville
K. Y. Swisher, Fairview
H. V. Thomas, Fairmont
J. M. Trach, Fairmont
G. H. Traugh, Fairmont
J. R. Tuckwiller, Fairmont
Chas. W. Waddell, Fairmont
David A. Watkins, Monongah
W. A. Welton, Fairmont
Joe Yost, Fairmont
L. N. Yost, Fairmont
•T. M. Calvert, Mannington

Marshall County Society

R. A. Ashworth, Moundsville
P. D. Barlow, McMechen
W. P. Bonar, Moundsville
B. F. Bone, Moundsville
J. E. Cooper, Cameron
O. F. Covert, Moundsville
G. N. Cunningham, Wheeling
A. L. Coyle, Wheeling
D. B. Ealy, Moundsville
C. S. Fortney, Hundred
Mary J. Fortney, Hundred
W. G. C. Hill, Cameron
R. P. Hogesman, Cameron
John H. Luikart, Moundsville
L. H. McCuskey Moundsville
Chas. G. Morgan, Moundsville
J. C. Peck, Moundsville
C. W. Riggs, Cameron
J. A. Striebich, Moundsville
O. P. Wilson, Moundsville
S. F. Yoho, Franks
R. H. Zinn, Hundred
•M. A. Dowler, Glendale

Mason County Society

H. A. Barbee, Point Pleasant
R. F. Bryant, New Haven
E. L. McElfresh, Point Pleasant
C. W. Petty, Hartford
R. W. Sayre, Point Pleasant

McDowell County Society

J. H. Anderson, Hemphill
W. P. Bean, Keystone
H. A. Bracey, Welch

R. K. Bragonier, Keystone
G. W. Brewster, Rupert
H. G. Camper, Welch
A. B. Carr, War
W. A. Carr, War
R. D. Clark, Caretta
T. H. Clark, Thorpe
C. C. Cochrane, Kimball
W. E. Cook, Pageton
N. F. Coulton, Filbert
J. M. Crymes, Caretta
J. E. Davis, Welch
N. H. Dyer, Hartley
R. H. Edwards, Welch
J. W. English, Bramwell
G. P. Evans, Iaeger
W. C. Hall, Welch
J. C. Harrison, Dan
D. D. Hatfield, Yukon
W. K. Howard, Twin Branch
C. R. Hughes, Kimball
Alex Irvine, McDowell
Cecil F. Johnston, Welch
W. L. Johnston, McDowell
J. C. Killey, Vivian
T. G. Matney, Iaeger
J. Louis McCarty, Berwind
W. L. Peck, Coalwood
I. T. Peters, Maybeury
J. T. Peters, Gary
J. K. Rowland, McDowell
A. G. Rutherford, Welch
R. V. Shanklin, Gary
H. T. Shiefelbein, Welch
A. B. Spahr, New Hall
W. S. Steele, Premier
W. B. Stevens, Kimball
G. L. Straub, Welch
M. H. Tabor, Crumpler
M. F. Torregrosa, Ashland
E. E. Vermillion, Welch
A. C. Van Reenen, Davy
C. W. Vick, Jenkins-Jones
E. M. Wilkinson, Welch
W. Branch Young, Elkhorn

Mercer County Society

F. N. Andrews, Bluefield
C. C. Ballard, Gap Mills
J. H. Bird, Rock
John R. Boyd, Oakvale
J. E. Blaydes, Bluefield
M. B. Caldwell, Matoaka
B. S. Clements, Matoaka
F. J. Collison, Bluefield
J. H. Craft, Springton
W. B. Davis, Elkridge
W. E. Dickerson, Princeton
A. E. Echols, Matoaka
Wm. D. Fitzhugh, McComas
J. Francke Fox, Bluefield
P. R. Fox, McComas
W. W. Harloe, Matoaka
A. H. Hoge, Bluefield
Samuel R. Holroyd, Athens
E. W. Horton, Bluefield
D. L. Hosmer, Bluefield
S. J. Kell, Bluefield
D. B. Lepper, Bluefield
David Littlejohn, Charleston
H. B. Luttrell, Bramwell
John I. Markell, Princeton
John McGuire, Bluefield
C. J. Reynolds, Bluefield
R. S. Richmond, Bluefield
Francis T. Ridley, Bluefield
R. O. Rogers, Bluefield
C. T. St. Clair, Bluefield
Huston St. Clair, Bluefield
Wade H. St. Clair, Bluefield
Chas. M. Scott, Bluefield
M. W. Sinclair, Bluefield
W. C. Slusher, Bluefield
Ira M. Smith, Princeton
Harry G. Steele, Bluefield
Robert R. Stuart, Bluefield
B. B. Sturdivant, Crystal
G. L. Todd, Princeton
G. T. Thornhill, Bluefield
T. E. Vass, Bluefield
J. R. Vermillion, Princeton
Uriah Vermillion, Athens
W. H. Wallingford, Princeton
A. D. Wood, Bluefield

Mingo County Society

L. F. Boland, Williamson
Thomas D. Burgess, Williamson
W. H. Burgess, Williamson
G. T. Conley, Williamson
Rush F. Farley, Delbarton
H. C. Hays, Williamson
L. S. Henley, Borderland
G. B. Irvine, Williamson
O. H. Jennings, Williamson
J. C. Lawson, Williamson
James G. Lowry, Bluefield
M. P. Moore, Portsmouth, Ohio
C. E. Peery, Glenalum
W. H. Price, Chattaroy
Fred Ben Quincy, Williamson
B. J. Read, Red Jacket
R. A. Salton, Williamson
E. P. Stepp, Kermit
William J. Walker, Gilbert

Monongalia County Society

M. L. Bonar, Morgantown
C. F. Boyers, Morgantown
Dorsey Brannan, Morgantown
C. M. Bray, Morgantown
M. H. Brown, Morgantown
Peter Caserta, Morgantown
L. W. Cobun, Morgantown
Forrest P. Combs, Morgantown
Samuel W. Cottle, Morgantown
R. H. Edmondson, Morgantown
H. C. Farrier, Morgantown
C. C. Fenton, Morgantown
R. W. Fisher, Morgantown
K. B. Hansen, Morgantown
E. F. Heiskell, Morgantown
W. H. Howell, Morgantown
Brinley John, Morgantown
B. Clifford John, Morgantown
Carl Johnson, Morgantown
C. Royall Kessel, Morgantown
Herbert V. King, Morgantown
W. L. Madera, Morgantown
C. H. Maxwell, Morgantown
G. R. Maxwell, Morgantown
T. Jud McBee, Morgantown
Dewitt McDonald, Morgantown
W. H. McGaw, Morgantown
Cosimo Menzolora, Cleveland, Ohio
S. J. Morris, Morgantown
W. C. Moser, Morgantown
George W. Phillips, Morgantown
H. H. Pierce, Morgantown
D. M. Post, Morgantown
H. C. Powell, Morgantown
R. C. Price, Morgantown
C. B. Pride, Morgantown
R. S. Rilling, Pursglove
C. C. Romine, Morgantown
F. T. Scanlon, Morgantown
William B. Scherr, Morgantown
J. N. Simpson, Morgantown
B. M. Stout, Morgantown
Samuel F. Talbott, Morgantown
Alfred C. Taylor, Mona
Eldon B. Tucker, Morgantown
F. R. Whittlesey, Morgantown
C. B. Wylie, Morgantown

Ohio County Society

G. W. Abersold, Short Creek
E. L. Armhrecht, Wheeling
R. J. Armhrecht, Wheeling
J. R. Arnold, Wheeling
Russell B. Bailey, Wheeling
J. T. Belgrade, Wheeling
D. B. Best, Wheeling
E. S. Bippus, Wheeling
R. C. Bond, Wheeling
J. R. Caldwell, Wheeling
C. H. Clovis, Wheeling
E. E. Clovis, Wheeling
J. Plumer Cole, Wheeling
H. B. Copeland, Wheeling
W. A. Craft, Wheeling
H. N. Deem, Wheeling
Thomas F. Downing, Wheeling
R. U. Drinkard, Wheeling
A. C. Earnest, Wheeling
Louis B. Farri, Wheeling
Ivan Fawcett, Wheeling
W. S. Fulton, Wheeling
M. Gaydosh, Wheeling
R. D. Gill, Wheeling
J. W. Gilmore, Wheeling
E. F. Glass, Wheeling
A. J. Goodwin, Wheeling
O. H. Griffith, Wheeling
N. L. Haislip, Wheeling
H. C. Harpfer, Wheeling
L. N. Harris, Wheeling
H. A. Henderson, Wheeling
A. W. Higgins, Wheeling
Arthur K. Hoge, Wheeling
Thomas R. Hoge, Wheeling
J. O. Howell, Bridgeport, Ohio
Harry Hubbard, Tiltonsville, Ohio
Elizabeth Hupp, Wheeling
A. L. Jones, Wheeling
E. L. Jones, Wheeling
W. K. Kalbfleisch, Wheeling
Charles H. Keesor, Wheeling
M. B. Kelly, Wheeling
T. M. Klug, Wheeling
Raymond H. Lewellyn, Elm Grove
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Lorne A. Lyon, Wheeling
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SOME PHASES OF STATE MEDICINE *

By WALTER R. GRIESS, M.D., F.A.C.S.
Cincinnati, Ohio

As you will notice from the subject, this paper deals with "Some Phases of State Medicine," and it is my intention to eliminate from discussion those phases of state medicine which relate to public health regulations and to maintenance of hospitals and asylums for the indigent sick.

The state must always control medicine in part, in that the state certainly must afford relief to the indigent sick; the state must control sanitation; the state must lay down rules and regulations that pertain to the practice of medicine without encroaching on the rights of the physician to prescribe; but the proper control of medicine and the practicing of medicine by the state are two different things, and it is this latter phase which I wish to emphasize.

Likewise the legal profession practices through rules and laws laid down by the courts and the state as to legal procedures and conduct, and furnishes legal aid for the indigent criminal. No one objects to this form of state law nor does any person object to the aforementioned form of state medicine which pertains to sane regulation. But when it is intended that the state furnish medical or legal aid to those who are able to pay and make it either optional or obligatory, in either such an event we would have the state guilty of the practice of medicine or law and usurping either in part or in the whole the rights of the individual.

It is peculiar and really tragic how few men who are practicing medicine today know how state medicine is being urged by many prominent and forceful writers.. I am afraid the busy practicing physician looks upon state medicine with derision and thinks it can not come to pass just because he knows how tragic it would be; but he fails to see that what is self-evident to him the uplifter can not or does not care to understand. And so, as in many other movements that have as their object the uplifting of the human race, the uplifter may be perfectly honest in his intentions; he may be an idealist, and, if so, he does not see all the obstacles; he does not measure his plans in that they must be carried out with varying human emotions, which he, in his idealistic state of mind, thinks can be molded into his scheme of thought. And herein is where his error lies. But instead he boldly and blindly develops some organization or society for health betterment and soon develops a strong ally in the paid

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secretary and the field men which his organization breeds, and some of these then become our staunch supporters of state medicine.

The believing public read the uplifter's literature, follow his form of logic and his statements which are all made with an assumption that they are facts and written and stated with a positiveness that seemingly can not be refuted. With this, then, what an easy matter it becomes to thoroughly "propagandize" the public. I am certain, after reading some of the articles on state medicine, that I would be converted to some of the many phases of state medicine were I not a physician myself. So it certainly behooves the profession to stand together and not lend a hand to one form or another of questionable social uplift movements which lead towards this impending peril.

I know a great many of my dear friends who thought prohibition was proper and right; they thought it was proper, of course, for the worker but not for themselves. This they stated frankly. And so it is with state medicine; the advocates think state medicine will be helpful for the worker. A great many employers think it is a fine thing for the employee because, perhaps on a few occasions in their lives, they have been annoyed by having one of their favorite employees overcharged for some medical care and for this one seeming hurt they are willing to be persuaded that the whole present social order of things must be changed. Little do they suspect that when they are contributing their influence, not to say anything about their money, to such propaganda as state medicine, they are laying the very foundation stone of communism.

If state medicine ever would come into full sway, this same man would find himself dictated to in a very short time by the regulations of some theorist from which there would be no appeal. To show some of the wild dreams which these advocates have, allow me to quote from a certain writer who states:

"Let us have a national general staff for health. . . . Let this general staff organize the war on disease . . . working out a vast collaboration between the doctors and the architects, the engineers, the amusement-promoters, the teachers, the chemists, the cooks, the grocers, between the doctor and all servants of society who directly affect the health of the nation. Let the program include a fundamental consideration of the three basic problems of food, housing, and work."

According to this writer (and I refer to the article by Frank Glenn in the *Century Magazine)*, the state doctor seemingly would dominate everything. The disagreeable taste of any domination only becomes apparent when some unjust or debatable law is thrust upon us, such as pasteurizing of certified or inspected milk.

Do you know that in some localities certified or inspected milk can not be sold or given away unless it is pasteurized? The physician has no right under the law to use pure, clean, raw milk. Is not the state practicing medicine—is not the state prescribing under these conditions? Why not, then, by law, sauce all the apples, coddle all the eggs, boil the delicious peach, stew our tasty celery, and fumigate the tender lettuce leaf to kill any germs that they may possibly contain in the raw state? If we must have state medicine, why not have state law? Why not a state grocery, a state butcher shop, and what not? Why one and not the other? Why, then, should we not freely admit, if we are ready for this, that we are also ready for communism? We must forever be on our guard lest regulations be so enacted as to encroach upon our rights to prescribe and use foods and remedies which have common usage.

There is no question but that state medicine is the second step towards communism. The first step towards communism I believe has been national prohibition in centralizing power, socializing the conduct and habits of the people and in the developing and rearing of the professional uplifter who becomes trained to exercise his technique in other lines

of state control. He soon becomes drunk with arrogance and conceit and learns how to argue his point with a deadly verbal play. I have always said that where there is prohibition there will be anarchy. Anarchy, of course, existed in Russia after prohibition.

A famous historian once said:—"All volumes that record the history of nations can be written on a single page; it tells of centralization of power, then tyranny, then ruin."

The instigators of most articles on state medicine are, in my opinion, like the instigators of malpractice suits, some dissatisfied physician or surgeon who has a theoretical knowledge of medicine but lacks the ability to put it over himself. These men see with jealous eye the few successful commercial physicians or surgeons who possess perhaps a greater knowledge of human nature than of the science of medicine and for the bad behavior of these few they wish to punish the great mass of real doctors who have the theory, practice, and ethics of their profession properly coördinated.

Now what we really should do and what we need in the medical profession is to have a little more tolerance and in many instances a little more courage and then not be too busy to correct things in our own ranks. The physician who lacks the ability to put it over in private practice should seek and be aided in finding some field wherein he can become useful in his work, maybe as a laboratory worker where his contact need not be with the public but where his contact is with the profession itself. When he gets in the right pew, then he will be satisfied and while he is in the wrong pew he will always be a disturbing element for himself and for everybody around him and he must be helped. Our medical societies must demand ethical conduct and not be cowardly in disciplining infractions.

What else can we do to prevent the growth of these sentiments in favor of state medicine? We have made some mistakes. In reading over literature of advocates of state medicine, certain writers refer to some deplorable practices that may occur in the practice of medicine by the individual physician. They all seem to think that state hospitals and state clinics would be perfect; they all paint a picture that if a man will work eight hours a day he will not be tired and can then give his patients better attention. They seem to forget that a man might work eight hours a day at the practice of medicine but might play poker the rest of the night. And then they probably think he would not be tired the next day! They all seem to think that if men were put on an hourly basis and if there were state organization, all men would immediately become angels and would cooperate wonderfully with the surgeon who might be appointed a chief in their community. They seem to feel that jealousies and everything of that sort would immediately be banished.

The best way to fight such arguments is to ignore them. One of the biggest mistakes the medical profession is making today is by washing their dirty linen in public and thereby furnishing these writers in favor of state medicine with ammunition.

The other day I was talking to a business man and he was telling me how terrible are some of the practices that occur in medicine. He told me that in a hospital of which he was a trustee the surgeons had to sign an agreement not to indulge in fee-splitting, and he also had read in the public press a great deal about this practice. I asked him to be fair and not condemn the entire medical profession for a human fault which occurs in all lines of endeavor and one which all honorable men were attempting to eliminate, some in one way and some in another; and the medical profession, unfortunately I thought, had attempted to eliminate this by advertising the fault to the public.

I thoroughly agree that there are such things as fee-splitting in the piano business; I thoroughly agree that there are such things as fee-splitting in the legal profession; I thoroughly agree that there are such things as fee-splitting in the cattle business; in fact, I do not know where fee-splitting could not

and does not exist. But what business or other profession goes before the public and asks for help? These things must and should be done within our own ranks and should be done without fear or favor as the legal profession does when they file disbarment proceedings for unethical conduct against a fellow practitioner. Are we too cowardly to do this ourselves that we need the help of the public?

Now, if doctors would just cooperate a little better and not indulge in whispering campaigns against one another and would not assume any superiority complexes; if some of our big medical centers would themselves see that their skirts are clean and not use indirect advertising methods, we would, I am certain, put ourselves in a more dignified position in the eye of the public. We must be fair. Medical societies must, first of all, have a definition of what they mean by state medicine and they must not admit anyone to membership who practices or advocates state medicine; that will be the first big step towards the elimination of state medicine.

The next thing we must take care of, is the curbing of practices which lead up to state medicine; for instance, the private practice of medicine by hospitals, by universities, and by institutions, by industrial concerns, by clinics. How many of you are brave enough even to voice your opinion upon this point?

Perhaps one of the most adroit schemes that the social uplifters are using to drive physicians into state medicine is by having lay social workers form health organizations and gain contact with physicians and then, in turn, ask the profession to take a hand in the development of their pet scheme. Some time ago I read an address by a social worker on state medicine and he stated that unless the physician vitally interested himself in certain health movements that the speaker advocated, state medicine would be thrust upon us. When I read this I interpreted such admonition as but a subtle threat and a means of leading the frightened sheep to slaughter. It was, indeed, a trap; for should we even lend a hand to some of these socialistic monsters we are, indeed, spelling our doom. These agitators are attempting to lead us into a boat which they, however, mean to steer. The medical profession will never be torn down by outside influences; only the Judas in our midst can cause our downfall. The danger lies within.

With apologies to Pope, allow me to show, by quoting the possible end results of our indifference to state medicine propaganda:

State medicine is a monster of such frightful mien
As to be hated needs but to be seen;
But seen too oft, familiar with her face,
We first endure, then pity, then embrace.

State medicine would produce untold arbitrary state laws, and everyone knows, that when a law is once on the statute books, how difficult it is to have it repealed. State medicine would abolish open educational campaigns which now, through the process of open and free discussion, help to kill many objectionable laws. It would abolish free discussion and free thinking in medicine, and medicine would soon become the rule of thumb and a medical inquisition would be set up which would probably crush out many lives.

I am not going to waste time telling the public how state medicine will not work. The minute we explain we put ourselves in a position of defense. We have no defense to make. We will get nowhere by arguing with the public; the case is not in court unless we put it there. The big thing is to let the public know that we will not practice state medicine and it can not be denied that if the physician does not lend himself to this movement, it can not come to pass.

The public knows full well that the medical profession as organized today has never allowed anyone to suffer, the poor, the middle class, or the rich. We know that state medicine will not change the individual doctor; he will either be good, careless, or dishonest whether he be a state doctor or not. We also know that the doctor in state medicine

will be controlled by a system, and what promise has the public that such a system will be right or safe?

Now let us come to the economic side:—Would state medicine be a saving? Would it cost less? There is no question in my mind but that it would cost more upon any system of its application, whether it be by the full-time salaried doctor or paying by visits. If pay by visits were in order, we need only recall and see what a tremendous difficulty was encountered with that system when it was in vogue in Germany; how patients were over-treated and many fake physio-therapy treatments were given. The poorest trained physician soon developed the largest practice.

The state would immediately have to be the judge as to what medical treatment was necessary. Differences of opinion, court actions, and everything else of that nature would ensue. I do know something about this because I have done expert work for the Industrial Commission of Ohio and referee work for the United States Industrial Compensation Commission, and I know all the tricks that are used by malingerers. I am certain we have plenty of laws on the statute books now to protect the sick from overcharge; protect the sick against malpractice; and, best of all, the sick are protected by the high standards and ideals which most medical men possess.

The laity sometimes fail to appreciate the tremendous interest that their family doctors have in their welfare and the jealous interest that men have for the well-being of their patients. Professional men in the majority of instances are not business men. The great majority have as their goal the obtaining of their patients' good will and affection rather than the monetary gain. This, I think, is a universal observation.

It is peculiar to note the number of men in big positions who believe in state medicine. The industrialist who advocates state medicine is short-sighted; the industrialist who puts into effect in his plant a form of industrial communism which affects the medical profession and his employees, is short-sighted; he is simply opening the doors for the application of a principle which can be applied to his whole organization.

The trouble is that a layman can never judge whether a thing is good or bad. State medicine, like many other health movements, is sold him upon cunningly presented statistics and surveys. Medical statistics can be so distorted that they can be made to appear favorable or unfavorable depending upon into what pet scheme they are intended to fit; and, as far as surveys are concerned, we know that surveys are usually made to support something rather than to find out anything and, if the direction of the survey does not support, then its direction is simply changed.

In building up or in furnishing the medical aid unit of any industrial concern, be it large or small, the members of the profession should consider it their sacred duty to see that nothing is fostered that smacks of industrial communism. Young men, indeed, will often accept such positions not realizing how dark the future will be for them. They, indeed, think it is a stepping stone towards future success, but they should realize that the larger the salary, the less they learn and the less capable they will ever be of stepping into private practice from such a position, for they will become engulfed in the routine of their work and become unfitted entirely for private practice.

Many of these men that I have known as students have as their goal a place in medicine which would frown upon them in such a position, but they seem to think if they ever reach that height their past will be forgotten. In this they err, for the path of glory is service to the patient, and loyalty to the traditions and ethics of the profession.

It is not my intention to condemn industrial concerns for furnishing medical aid; they are to be commended for this; but I would unequivocably condemn any concern that fosters compulsory medical service or service through coercion.

Many articles that I have read on state medicine, in their scheme of things suggest that all doctors would not have to practice state medicine but that state medicine would only be for the poor and the middle-class, and that the rich would have their own doctors. This is very much like prohibition; prohibition only for the poor but let the rich, who can buy, drink at will! But here again the 'bootleg" doctor would come in for his work. The unscrupulous man would soon find fault with the state doctor and the state system and the poor people would, in order to save their child or save themselves or their loved ones, pay the bootleg doctor or charlatan. On the other hand, the rich or proud would not want the state doctor, and here again exorbitant prices could and would be charged. So the state doctor would find himself a despised individual, not wanted by the rich and poor, and the rich and the poor alike could both be preyed upon. So you can easily see, with a disorganized medical profession, that a few bad ones could run rampant.

Now what is the remedy?

First.—Every city, county, and state society should accept the definition of the A.M.A. as to what constitutes state medicine.

Second.—All members who practice state medicine or advocate state medicine should be dropped from the membership.

Third.—The profession must clean house within itself and not call upon the laity to help in the cleaning.

Fourth.—Inculate in medical students such high ideals as will preclude any tendency in their minds towards sympathy for or support of state medicine.

We can not fight state medicine on the grounds of any economic loss to the profession, for it would be an economic gain as a whole; but we can fight state medicine on the grounds that when you destroy ideals you destroy service and when you destroy service some one suffers and in this instance the sufferer will be none other than he for whose benefit state medicine ostensibly is advocated —namely, the patient.

I am here mostly to try to tell you that state medicine is a hideous monster that is more ready to destroy you than you have any idea; and irrespective of how you feel about state medicine, I feel that in the last analysis it is your duty to fight it upon the grounds of patriotism, upon the grounds of those ideals and traditions that have made us what we are today—or, must I say "yesterday."

Discussion

D. J. KINDEL, M.D., Fairmont: The very term "state medicine" at once elicits an emotional response. Much of this is due to emotional reactions associated with words. Think of the emotional response to such words as "farm relief," "prohibition," "birth control," "milk," the League of Nations," "bolshevism," "labor unions," "lodge doctors," and "racketeers." I am inclined to believe, as the previous speaker stated, that we look upon state medicine as the child frightened by its own shadow on its way to bed, who does not know what it is, so it is scared to death.

A short definition would most likely lack inclusiveness and a long one so complicated that it is difficult to assimilate and apply. Many definitions for state medicine have been propounded. One that seems inclusive is,—"Service to the individual at the expense of the community." In other words, so called "state medicine," which is a loose term, involves in reality the socialization of medicine.

The socialization of medicine is not a new idea; it exists, in fact, wherever there is concentrated action of physicians, socially minded individuals, organizations or state governments for the prevention and cure of illness. More specifically it exists today in our federal, state and local boards of health for the control of the causes and the prevention of the spreading of disease, in our hospitals, free and pay clinics, health centers, convalescing and nursing homes, in our state and national medical organizations, with their aims of setting and maintaining standards of training and service, and in voluntary health organizations, such as, for example, the National Tuberculosis association and state compensation laws.

One fundamental fact requiring consideration is that in spite of the advances in medicine we have not succeeded as yet in making the advantages of

modern medicine available to all people. This is shown by the great amount of unnecessary sickness that still prevails and by the current growing propaganda about the cost of medical service which prevents many from receiving its benefits.

Another fundamental fact that is recognized by the committee on public relations of the American Medical association and which is forcibly brought out in a recent issue of the A.M.A. *Bulletin*, is that there is little question of an advancing social trend in response to public demand and supported by public opinion. I quote from report of the Public Relations committee as follows:

> Organized medicine can never overcome its troubles without the aid of some greater degree of self-appraisal as to whether it is meeting all of its obligations of public service. If it does not meet these obligations, some other agency will do so just as has been done in other countries.

Whether this will be by the State or some other agency can not be foretold and may not be to the satisfaction of the medical profession.

The International Labor bureau of the League of Nations has stamped its approval on health insurance acts in foreign countries; in part it states, "compulsory sick insurance appears likely to occupy an increasingly important place in the social legislation of every country."

Compulsory health insurance which is socialization of medicine, was probably started by Germany and has involved many other countries of Europe. One can not help but feel that such existence of these plans has been the result of popular and public demand.

Our speaker recommends a policy of "laissez faire," a philosophy which trusts the direction of human events to nature, accident, providence, or destiny. This is essentially a "hands off" policy or passive resistance.

Dr. William Allen Pussey, former president of the A.M.A., recommends forcible and vigorous opposition and constructive control. He states that we should go into the practice of medicine as a business.

That some changes in the economics of medical practice are bound to take place appears to be obvious. Constructive control by properly organized medicine is necessary.

Industry recognizes the value of the health of the worker. Strangely this has come from industry itself and not from the medical profession. Therefore, industry has taken the lead in promoting health and medical service to employees.

Industry recognizes that physically efficient workers are just as essential as mechanically perfect machines. Industry also recognizes that illness of the employee or his family has a decided influence upon the production of the individual. Aside from this, any reduction in the enormous economic loss due to illness is of value to the employee and the community as a whole.

Therefore, it has taken the initiative in many instances throughout the country to make available either an optional or obligatory medical service to its employees.

Were medical societies throughout the state to follow the drastic recommendations of the speaker concerning the expulsion of members who are practicing socialized medicine in one form or another, I am afraid there would be a considerable falling off in the roster of the state and local medical associations.

The question is one for a solution by group thinking and group effort rather than by the individual.

DAVID LITTLEJOHN, M.D., Charleston: We are inclined to believe that the reason that state medicine is so often looked upon as a many-headed monster, whose tentacles extend all around us seeking to enmesh the whole medical profession in its deadly grip, is because almost everyone who undertakes to discuss it, places a different interpretation upon it and views it from some more or less personal objective. This applies equally to those who advocate it and those who oppose it. The result of this is, that those who undertake its discussion are apt to generalize in their conclusions while only considering certain specific problems, a result which is nearly always liable to be tainted with error. To a proper understanding of the subject and an intelligent discussion of it, it is essential that there should be a common definition and a united basis upon which all can agree, then and then only, can we hope to intelligently and constructively strive toward a solution of this problem.

Strictly speaking, every legally licensed medical practitioner is practicing state medicine. The state always has and always will continue to reserve to itself the right to regulate the practice of medicine. This it does through its police power for protection of the people of the state. We can not logically compare the practice of medicine with the practice of law, or with the function of the clergy. In the practice of medicine, those engaged in it are given in trust the life of those committing themselves to

their care. The question of the life or death of the individual is placed in their hands. This is a responsibility which is given no other profession or occupation. Consequently, it is only right and proper that more rigid restrictions be placed by the state around those who are to be permitted to practice this profession. In keeping with this, the state has set definite requirements for those who would engage in the practice of medicine and at the same time the practitioner in accepting from the state the right to practice his profession, contracts or agrees to perform certain duties for the state, such as the reporting of births, deaths, and communicable diseases. In performing this function they are acting as agents or officers of the state, and as such, are practicing state medicine. In many other respects there are legitimate phases of state medicine.

We make this explanation in order that our position may be clearly understood. We believe that there is a legitimate field of what is strictly state medicine and which we can not condemn, because it now exists and always has existed, and performs a function which can in no way be taken care of at the present time. There are other phases of what may be termed state medicine, to which we are as sincerely opposed as anyone can be. We believe, however, that the proper method of attacking these phases is not by attacking them on the basis of state medicine as a whole. Through this method we have to make too many exceptions to the various phases of state medicine to which we do not object. This tends to cloud the issue and prevent our concentration on the objectionable features on which we are all agreed. We must select a new name or term descriptive of these objectionable features, and then unite as a solid profession to devise the proper methods to prevent the encroachment of these upon the rights of the medical profession.

The solution of the whole problem lies in the hands of the medical profession itself. We have been for years advocating a program of education for the public. Our own national medical organization is furthering this project through a magazine issued to the public. Almost every newspaper in the land carries syndicated articles featuring the same object. Magazines of practically every type are filled with the same educational propaganda for the public. About fifty per cent of all nationally advertised products or institutions refer in some way or other to this subject. What has been the result? The public has become health conscious to a degree unheard of before. They have now a general knowledge of the cause and methods for the prevention of disease, which was never dreamed of years ago. They have acquired sufficient knowledge to have removed much of the mystery which formerly surrounded the practice of medicine and they know enough to demand certain things about which they formerly had no conception. Now, if the medical profession is not going to meet these demands of the public, then it may expect the public to create community facilities to supply its demands. This will create and bring into being those phases of state medicine which we deem objectionable. If the profession will prevent these conditions, it must take the initiative, it must keep its thinking several laps ahead of the public and prepare the solution for the problems before the public is aware that the problems exist.

In no phase of human endeavor has there been greater advances made, during the past half century, than in the methods for the prevention and treatment of disease, but the profession has not made equal progress in the methods by which it makes these advances available to the public. This lies at the very basis of the present popular demand for many of these objectionable phases of state medicine. This condition the medical profession must correct itself, or else the public will force its correction through legislative methods. What will the profession do?

We can not conceive of regulations governing the production, distribution, and sale of milk by a community, as being in any way even related to state medicine. On the same basis of reasoning, we would abolish pure food regulations and all control measures which aim to protect the public against impure or contaminated food, if they did not agree with our own particular viewpoint.

Regarding industrial medicine, we can not quite agree with the essayist. Industrial organizations were quick to realize the importance of adequate care and supervision of the employee and his family in their relation to production. We have been fortunate in that there have been lay leaders who have been keen enough to sense this relationship. Here again, however, it has been unfortunate that the initiative had to come from the industrial leaders, instead of from the medical profession. If the profession had been alive to its opportunities it would have assumed the leadership, and would have outlined methods of applying protective measures to industry. Notwithstanding this, there has developed

a very important phase of medical practice, which we know as industrial medicine. Many of the men engaged in this are of the very highest type, professionally. There are undoubtedly some engaged in this type of medical practice who use objectionable methods, but in what phase of medical practice is this not true? We can not condemn the whole program because there are some undesirable methods employed by a few who are engaged in the practice. Many communities would be absolutely without any medical service, if these industrial organizations did not employ a physician for this purpose. This is certainly true in many places in West Virginia. We feel that the industrialist who does not make adequate provision for the protection of the health and care of his employees and their families in this day and age, is laying the foundation for all types of economic and social difficulties in his community. We do not think that the industrial organization that provides this care for its employees is fostering either state medicine or communism, but is rather doing that which is best calculated to keep both from being thrust upon the country.

J. E. OFFNER, M.D., Fairmont: The octopus of state medicine is gradually creeping into our ranks. It reaches out with its tenacles in the form of civic societies, corporation practice, etc., that have no more right to practice medicine than we have to practice law or any other profession aside from medicine.

We, too, are apt to be caught napping at the switch. I will admit I was sound asleep for a long time but finally got my eyes open enough to see the dawn of state medicine. If we want to prevent this encroachment we must get busy now, not in the near future. We must start now to immunize our society against state medicine. If we allow ourselves, we are half way tempted to accept some of their theories as a few doctors have already done.

We can not expect anything else of the laity. They thought they wanted prohibition, but now that they have it they are somewhat like the fellow with a billy goat. They do not know what to do with it. Hatching out a theory and having it work out practically are two different things.

Just a few weeks ago I noticed an editorial in one of our local papers by Dr. Alfred J. Asgis, secretary of the American Society of Stomatologists, in which he advocated free dental service by pooling the dentists and providing dental service for the whole public at the flat rate of $25.00 per year. He further stated, however, that it might be a long time before state medicine actually is here, unless the dental and medical professions take the initiative in bringing it about.

The press has always been the enemy of the medical profession for the simple reason that we do not advertise.

In England I understand they have a panel system which is another form of state medicine. As a result nothing of importance has come out of England since this has been in vogue. The motto of those practicing state medicine is "never do today what can be put off until tomorrow." A matter of passing the buck, so to speak. In my opinion, state medicine in this country would be a step backward instead of forward.

DR. GRIESS (Closing the Discussion): First I wish to thank all who have discussed my paper, although two of the gentlemen seemed to thoroughly misunderstand my paper and for their benefit it is necessary for me to briefly recapitulate lest others might be under the same misapprehension.

The subject of my paper states definitely that I am dealing with *Some Phases of State Medicine*, and I left out of consideration entirely those things that deal with regulatory measures and the conduct of hospitals and asylums for the indigent sick, etc. That form of state medicine, I stated in my paper, was necessary, so why my discussants brought up this matter at all is difficult for me to understand. What I wished to warn this gathering against was the practicing of medicine by the state not among the indigent. I said definitely that I felt the state had the right and I felt that no sane man should object to the regulation of the practice of medicine, but I did say that we had to be on our guard against regulations "which encroach upon our right to prescribe and use foods and remedies which have common usage," and I did discuss freely forms of industrial and social medicine that lead up to state medicine.

I did make a reference to clean certified milk. I feel that pasteurization of this clean product robs the milk of a great deal of its food value. I did not speak against nor am I against the pasteurization of that milk which is produced under questionable surroundings, which is often found on the market. If the gentleman who criticizes this statement will give the matter thought, he will be convinced that to discuss this question fully would send us too far

astray but our journey would, I assure you, be interesting. This part of my paper touches upon regulatory measures which, if carried too far, might encroach upon our right to prescribe.

In my paper I stated the county and state societies should accept the definition of the A.M.A. of state medicine and eliminate from their membership those men who practice or advocate state medicine according to this definition and which is, as per resolution passed at the annual meeting of the American Medical association in 1922, as follows:

> Any form of medical treatment provided, conducted, controlled, or subsidized by the federal or any state government, or municipality, excepting such service as is provided by the army, navy, or Public Health service, and that which is necessary for the control of communicable diseases, the treatment of mental diseases, the treatment of the indigent sick, and such other services as may be approved by and administered under the direction of or by a local medical society.

Accepting that definition, I doubt whether the rosters of our medical societies would be greatly reduced as suggested by one of discussants, but the members would be put on their guard and would be more awake to this danger; for you will notice the last sentence of this resolution puts the responsibility on the local medical society. This resolution is, indeed, a literary masterpiece.

I was very emphatic to state that I had no objection at all to industrial concerns in furnishing aid to their injured employees or any objection at all to corporations examining their employees if they so desire. I myself am a director of a medical unit of one of the biggest railroads in our country and I am a strong advocate of medical examinations and I advocate the willingness to take care of our sick or injured when they so desire and when the responsibility for their sickness or injury rests upon the shoulders of the corporation; but I can only repeat what I said, that I do not believe any concern should practice medicine in instances where the illness or injury has no relationship to their employment, nor where it involves people dependent upon the employees, except perhaps in such rare instances where this might seem right when or where no other medical treatment is available. This any fair-minded man would concede.

I believe I made it perfectly clear in my paper that I did not discuss state medicine as a whole. I simply attacked the practicing of medicine by the state among those able to pay, and when one of my discussants said that we must find a new term descriptive of the objectionable features, I feel that he is right and by accepting the definition of the A.M.A., we certainly are coming to this point. Maybe we could use the words "the practicing of medicine by the state among those who are able to pay" as defining those phases of state medicine against which we are all opposed. It makes no difference what words we use,—anything suits me, just so we eventually understand one another and not argue about terms and thereby cloud the issue and fail to agree on things that we all are vitally interested in, and, after all, do agree upon. It might, indeed, awaken the consciousness of the busy practitioner who does not care to analyze or differentiate between the good and the bad phases of state medicine, if we could coin a good catchy phrase such as "Free Medical Practice by the State for Those Who Are Able to Pay." Who wants it?

I see a great analogy in law and in medicine which one of my discussants evidently does not see. Life, happiness, property, reputation, freedom,—all are in the hands of the attorney who is called upon to defend an innocent person, which very often is much more serious to an individual than to have typhoid fever or appendicitis.

I wish that two of the gentlemen who discussed my paper would read my paper again and I am sure that many things which I seemingly failed to make clear would come to them, for two of these discussions in greater part do not discuss my paper.

I agree thoroughly this is a matter for group thinking, not for an individual, and I am not coming here as an individual to solve this question, but if I can be of any little help to group thinking then I have not failed in my mission.

THE ABSORPTION OF LEVULOSE

Various investigators have asserted that levulose is particularly valuable in the dietary of patients with diabetes. Perhaps the most enthusiastic report, among the conflicting statements, is that of Joslin, who is inclined to believe that levulose can be used with advantage in the diabetic diet in small amounts daily for intermittent periods. Levulose seems to cause a different type of metabolism from dextrose, possibly because of the conversion of levulose in part into fat in diabetes or to a more active stimulation of the production of insulin. A recent investigation has shown that levulose is not changed to dextrose in the intestines. Whatever transformations occur take place beyond the seat of absorption.—*Journal A.M.A.*, October 24, 1931, p. 1230.

CLEFT LIP AND CLEFT PALATE *

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INTRODUCTION.—The ghastly result of nature's failing to close any of the facial clefts is sufficient reason for immediate correction; not to say anything of the restoration of function of the parts, the prevention of ill health and the impairment of the mental development of the child. The majority of these babies have sufficient tissue in place and when handled carefully may be restored satisfactorily. Each case seems to present various degrees of difficulties and possibilities; and must be solved as an individual problem. Any plan selected must necessarily be one without a forceful procedure on either the bones or soft tissue. Exhaustive study shows that this deformity occurs once in every 1,500 to 2,000 births.

Etiology. — The theory has been advanced of a hereditary tendency in which the germ plasm of either parent prevents the fusion of the embryo processes at the time when the normal fusion of these parts should take place. Others have been mentioned as maternal impressions, malnutrition, amniotic bands and adhesions, tongue pressure, separation of the maxillæ by pressure of the mandible due to the flexed position of the fetal head, intermarriage, faulty development of the osseous system, lues and alcoholism in the parents, and, lastly, that supernumerary teeth are always present and may to some extent prevent the proper space for the tissue to form normally, thus preventing the bony union and it in turn interfering with the development of the soft tissues.

Classification.—Cleft lip and cleft palate may be double or single; it may present various degrees, modifications and combinations of the complete deformity. All cases must be properly classified and thoroughly planned in order to insure the best results from the operation.

Muscles Involved.—The orbicularis oris is a complex muscle, which surrounds the mouth and is composed of fibres arising from many sources of the facial region. The tensor palati not only elevates the soft palate, but it is this muscle that frequently is the key to whether the palate will hold. When it is not fully controlled it is responsible for pulling the palatal flaps apart. The azygos uvula, single in the normal palate and double in the cleft palate, aids in deglutition. The soft palate is a continuation of mucous membrane folds from the hard palate and is composed of muscular layers of fibres. The palatoglossus forms the anterior pillar of the fauces and closes the mouth to the pharynx besides depressing the soft palate. The palatopharyngus, besides drawing the pharnyx and thyroid cartilage upward, also approximates the posterior pillar of the fauces and depresses the soft palate.

Clinical Management.—The pre-operative care of these patients is extremely important and it is best if they are in the hands of the pediatrician for this preparation. Early operative interference is indicated except when such conditions are encountered as skin and respiratory infections, prolonged bleeding time, prematurity, jaundice, enlarged thymus, gastro-intestinal disturbances, under nourishment, or any other condition preventing the child from being a good surgical risk. The tediousness of this early procedure is offset by the advantage to the baby and mother primarily from the nutritional stand-point; after the lip is closed the infant is certainly able to take feedings in a normal manner. Then it has been found that the few weeks old infant is somewhat immune to the shock of the operation. These same general prin-

* Presented before Staff of Ohio Valley General Hospital, April 14, 1931.

ciples apply to all cases regardless of the age. All are radiographed for the thymus condition and if it is found enlarged are given the proper Roentgen ray treatment. The weight curve is a good indication as to the patient's

Fig. 1. Single cleft lip and cleft palate (Form 7).

condition. A blood donor is always available and a final check of the patient is made immediately before the time of operation. Feeding is stopped to within four to six hours of the operation although water may be allowed up to the operating time.

The closure of the lip is done as early as possible, preferable within a six-week period, while the palate should be closed before

Fig. 2. Showing palate with orthodontic appliance in place.

speech habits are developed; that is between the first year and twenty-two months of age. The planning of the operation involves several principles; establishing normal function, correction of associated defects and preventing any undue post-operative deformity. The use of silver wires and lead plates are considered unnecessary in many cases. In short, any procedure, to be successful, utilizes all the tissue and maintains it in the proper relationship without tension until healing has taken place. The Logan bow is a useful aid in the lip operation, while mattress sutures are very favorable for use in the palate repairs.

Fig. 3. Result after lip operation.

During the operative procedure the throat is packed gently with gauze in order that blood will not be carried into the trachea or stomach.

A tongue suture, being placed at the time of operation, is left in place until the next day, as this will insure complete control in keeping the airways open and facilitate the removal of any collected blood in the throat. Intelligent cooperation of the nurse for the first forty-eight hours after operation is essential. The lip may be kept clean with a solution of alcohol and boric acid or frequently sterile vaseline is kept over the suture line, in this manner preventing crusts from forming. Warm saline irrigations are used every two

hours. Sterile water may be given soon after returning from the operating room and within a few hours feeding may be started, and should be dropped in the floor of the mouth,

Fig. 4. Wide cleft palate with screw-jack appliance in place.

keeping away from the lip or palate as the case may be. Infra-red and ultra-violet radiation is used locally and generally after the second day. A semi-sitting position is kept and in the case of infants, a body strap is used

Fig. 5. Palate closed but V shaped soft palate present.

as well as armlets or cuffs being placed to prevent the hands from touching the operated parts. In some cases of the palate the sutures are left to drop out of their own accord while those of the lip are generally removed within a week's time. In older patients no talking is permitted inasmuch as complete rest is desired. In considering speech training we

Fig. 6. Result of a previous operation.

recognize that the child is born with a physical mechanism making speech possible; and that speech habits are formed as the child grows in either a correct or incorrect manner. In the child having an open palate perfect speech is impossible. Once a closure is made it is possible to train these muscles in the correct habits of speech, providing the teachers work patiently and conscientiously in their daily efforts.

Fig. 7. Palate closed but V shaped soft palate present.

Case Reports.—Several cases are reported in detail from the time of their admission for surgical repair to a successful completion. The accompanying photographs and description of the technical procedure will in a small manner outline the methods adopted for these particular cases. Incidentally all of these de-

formities require much study as to the proper principles applicable to the individual case; therefore, no definite or fast rules may be laid down for all cases.

Fig. 8. Soft palate lengthened.

CASE 1. P. R., male, aged 10 years. Figure (1) shows deformity to be extensive, the palate was very wide. Classified under (Form 7). Figure (2) demonstrates an orthodontic appliance in position,

Fig. 9. Double cleft lip and cleft palate (Form 8).

which was used as an aid before surgical intervention. The appliance was in place approximately six weeks. Figure (3) is the final result of the lip operation.

CASE 2. B. Mc., male, aged 8 years. Figure (4) shows the actual condition as it existed in the palate. It also demonstrates the position of the appliance, which was used to close the wide space by means of surgical interference and a jack screw turned up one full turn each day until considerable reduction had been noted in the width of the cleft. Figure (5) shows the final closure of the palate to be successful, but with a V-shaped soft palate present.

CASE 3. H. S., male, aged 8 years. Figure (6) shows this patient had received the benefit of two or three previous operations. The lip was exceptionally good while this figure shows the condition of the palate. Note also the V shape at the posterior

Fig. 10. Logan bow in position.

part of the palate. Figure (7) shows the palate has been successfully closed, but a shortness still exists, which interfers with proper speech training. Figure (8) shows the palate after approximately an inch of tissue has been brought over from the palato-pharyngeal muscles resulting in the lengthening of the soft palate and consequently in better speech.

CASE 4. W. G., male, aged 22 months. Figure (9) shows the case as presented, according to the Brophy classification in form (8). Note the marked protruding of the prolabium, which is holding several temporary teeth; also the flattened aspect of the nose. Figure (10) demonstrates the

Logan bow in place a few days after the lip had been united and before the sutures have been removed. Figure (11) gives a view of the palate and lip after the final operation.

Fig 11. Shows case after successful operation on lip and palate.

CASE 5. R. H., male, aged 4 months. Figure (12) shows the patient as he was admitted to the hospital on March 14, 1931. Brophy classification places him in form (7) in which we have a com-

Fig. 12. Single cleft lip and cleft palate (Form 7).

plete unilateral cleft lip and cleft palate. The plan selected in this case was after Mirault. Figure (13) shows final result of the lip. The palate in this case will be operated upon within the next year.

CASE 6. A. O., female, aged 15 years. Figure (14) merely shows a palate view of a very wide cleft palate. To date this case has not had treatment.

CASE 7. R. Mc., male, aged 13 years. Figure

Fig. 13. Showing case after lip operation.

(15) shows another case of a fairly wide cleft palate. To date this boy has not returned for treatment.

CASE 8. C. M. Figure 16 shows perforation

Fig. 14. Shows wide cleft palate.

of palate due to lues. This case has received antiluetic treatment over a period of one year. In all probability a prosthetic restoration will be used in this case.

Conclusion.—I have attempted to point out several of the salient and fundamental points necessary in dealing with this particular type of deformity. Frequently these cases appear simple, but the simplicity of them re-

Fig. 15. Shows wide cleft palate.

quires a tedious exactness upon the part of all concerned in obtaining a successful result. Each case seems to present individual appli-

Fig. 16. Perforation of palate due to lues.

cation of certain general principles, applied after the patient has been given the proper pre-operative preparation. Even after the successful surgical work has been accomplished it will be necessary to teach correct habits of speech so that these muscles will become stronger and function normally. This speech training will help at any age if the teacher is sincere and competent. Finally, the desired result in all of these cases is normal appearance and normal function.

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FOODS AND FOOD ADVERTISING

Today, advertising of foods, separate from the package container, is not controlled by any food statutes, and indeed is quite free of any efficient control. The writer of advertising of food products, aside from such limited knowledge of foods and nutrition as he may possess, has only a versatile vocabulary and his conscience as guides in dramatizing the virtues of the products he proclaims to the public. Under these conditions, advertising for food products began to approach the tales of Hans Christian Andersen and the brothers Grimm. Into this mass of mingled truth and deception entered the Committee on Foods of the American Medical Association. It is not surprising that its initial steps should have been greeted with apprehension and bitter deprecation by some of the organs of the food industry, of business and of advertising. The Committee on Foods was established to protect the readers of the journals published by the American Medical Association against improper claims made for foods. If the medical profession required such protection, how much more was the protection necessary for the average layman, to whom the same claims were made as were made to physicians. Only those who have been actively associated with the Committee on Foods can realize the vast amount of good already accomplished.—*Journal A.M.A.*, October 3, 1931, p. 1004.

THE FUTURE OF THE PRACTICE OF MEDICINE*

By ALBERT H. HOGE, M.D., *President,*
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Bluefield, W. Va.

WE HAVE READ and heard a great deal of discussion during the past few years on the subject of the high cost of medical service. Most of these articles are written by non-medical men or women.

It will be my pleasure to discuss with you tonight some of the things that enter into the high cost of medical care.

A great deal of the criticism heaped upon us has come from men who have made large fortunes from their dealings with the public in commercial or industrial lines. These critics, notwithstanding their great wealth, have never been conspicuous by their donations toward the relief of human ills; but, on the other hand, by their methods of encouraging installment buying, have caused the working men to mortgage their incomes for one or more years in the future.

The propaganda put out by this same industrial and commercial world, which resulted in reckless buying and overproduction, has been partly responsible for the period of depression we are now going through, resulting in more than eight million men being thrown out of employment and consequently without money. These millions, with their families, are still being cared for by our profession in the same manner as when they were working.

We hear very little, if any, criticism during these hard times from these self-styled philanthropists, their reticence possibly being due to a fear that if too much attention is directed to this matter they might be expected to return some of the stacks of money with which they are now surrounded to these former working men, whose pitiful plights are in a large degree the result of false security and encouragement, fostered largely by the leaders of industry and commerce.

One of the outstanding critics of our profession and methods of caring for the working man has been Henry Ford. Those of you who care to read it, I would refer to the September, 1931, issue of *Forum*. If you read this article, you can better see that Mr. Ford can not, with very good grace, continue to heap criticisms upon us. Better still, compare the work done in his hospital at Detroit with the Rockefeller Institute in New York. I do not feel that the medical profession has ever given due credit to Mr. Rockefeller. Had he not given so freely the many millions of dollars for the study of the cause and cure of disease, he might today be much richer in money, but the world would have been so much poorer. Certainly, a comparison of the contributions to the betterment of mankind of some of our ultra wealthy critics is so small as to escape notice, when compared with the contributions of the greatest philanthropist of our time, Mr. Rockefeller.

The excuses for attacking the medical profession are many; but the one used most often, and, indeed, linked with most of the others, is the alleged high cost of medical care to the middle class.

Compare the cost of medical care with some other expenditures of the average American family, which pays its doctors each year $24; for drugs and patent medicines (chiefly the latter), $25; for non-governmental hospitals, $15; and for nurses, $8. For passenger automobiles, this same hypothetical family spends annually $150; for tobacco, $67; for candy, $37; for gasoline, $37; for theaters and similar entertainment, $35; for soft drinks, ice cream, and chewing gum, $34.

Undoubtedly, however, the cost of medical

* Presented before the Kanawha Medical Society, Charleston, West Virginia, on October 12, 1931.

care has risen, although not out of proportion to the cost of living generally. There are many reasons which justify some increase in doctors' fees, of which perhaps the chief is the greater length and expense of medical education. Many a country doctor fifty years ago never owned a thermometer.

The great increase in the cost of living generally applies to physicians as well as to laymen. Indeed, the great majority of doctors belong to the middle class themselves. Only a few are wealthy, and these have either married or inherited their fortunes.

The chief reasons for the high medical bill of the middle class are usually ignored or touched upon very lightly.

I am convinced that the people of the middle class have themselves to blame for the 'unconscionably high' cost of their medical care. By accepting as exiomatic that the value of medical service is in direct proportion to its cost, they have certainly not discouraged medical men from charging large fees. The multitude of people newly enriched by the prosperity following the war helped to strengthen this idea. By failing to discriminate between luxury and comfort, the cost of hospitalization is needlessly increased.

The main reason, however, for the plight of the middle class is their unthinking acceptance of that erroneous belief that the practice of medicine has become so complex that no one mind can attempt to keep up with its progress. At first thought this sounds plausible, and it has certainly had its effect upon the attitude of the public toward its medical advisers. More than anything else, the universal appeal of this idea has encouraged the growth of specialism. In turn, the cost of medical care to the middle class has advanced in almost direct proportion to the increase of specialists.

Let me say that I have no quarrel with the real specialist. Our profession needs a balanced proportion of specialists of all sorts as well as of general practitioners.

The admission might as well be made, also, that when specialism first began its meteoric rise a majority of the men who limited their work were of superior intelligence; but this has not remained the case. The desertion from the ranks of general practice by so many of the best minds of medicine has caused the need to be felt for able men to fill the gaps thus made.

"Keeping abreast of medical progress" is not so difficult as the specialist would have us believe. As Dr. Crookshank said, "A great deal of rubbish has been written about the impossibility of any one man's grasping all the recent advances in medical science. I say 'rubbish,' because real science simplifies and does not confuse; it synthesizes and leads back to first principles, so that men of intelligence and judgment can with ease keep themselves abreast of the best opinion." As Dr. Logan Clendening has shown, the most important discoveries in medicine have vastly simplified the treatment of disease.

Various suggestions have been made for reducing the cost of medical care for the middle class without retaining the family doctor. The most popular of these is group practice, in various forms, with some form of state medicine as second choice.

Group practice, as is well known, is the combination of a number of specialists into a medical firm or clinic. It might be defined as the department-store idea applied to the practice of medicine. Its advantages may be thus summarized: first, it assures, if properly conducted by competent men, a more thorough examination than can be given by one man alone; second,—an advantage which may also be a disadvantage,—a more impersonal view is taken of the patient; third, a doctor should certainly improve his technique by constant repetition of the same maneuvers; fourth, with a number of men using a common reception room, laboratory, telephone, and otherwise dividing expenses, it is possible to give medical service at wholesale rather than retail rates—though not many patients who have been "through the mill" extol this feature!

The objections to group practice as a sub-

stitute for the individual doctor are: first, the average patient is subjected to an altogether needless expense, for only a small portion of people who consult a doctor need an exhaustive examination to find out what is the matter with them; second, the impersonal view of the patient may lead to a lack of interest in his ailments; third, it is proverbial that a chain is no stronger than its weakest link, and the patient's trouble may lie within the province of the weak member of the firm; fourth, the view of a specialist is inevitably narrow, no matter how clear, and no aggregation of piecemeal observations can make up for a broad view of the whole organism; fifth, the patient is usually seen by each man once or twice, in a hurried examination, whereas every doctor of experience knows that the key to many obscure ailments, especially in the psychic realm, is to be found only after long, patient, and repeated interviews.

The analogy is often forced between the individual doctor and the retail shopkeeper and small manufacturer. Because department stores are replacing retail shops, and mergers are absorbing small industries, it is assumed that medical firms or groups, or such huge medical mergers as the Mayo clinic, must drive out of business the individual doctor. The basic defect in this comparison is that doctors are dealing with human beings instead of machines; and human beings simply refuse to be standardized. The parts of one Ford car will fit a million other Fords; but no two human beings are just alike. To overlook the human equation and to attempt to treat people as animated machines is to invite failure.

So-called part-pay clinics, in which medical service is to be obtained at reduced rates, have been suggested as a solution of the middle-class medical problem. Their expenses are to be borne either by the state or by private charity. In passing it may be observed that if the philanthropists who are given so much credit for their generosity in providing medical aid for the poor would raise their wage scale in keeping with their profits, there would be less need for such help. These clinics are open to the same objections as group practice in general, and, in addition, would have some of the objectionable features of state medicine.

State medicine may be defined as the assumption by the state or federal government of all responsibility for the health of its subjects.

Carried to its ultimate conclusion, there would be no physicians in private practice. All would be employed by the government and paid fixed salaries—probably varying according to their length of service. Various modifications have been suggested, such as compulsory health insurance, adopted years ago in England.

Under state medicine, inevitably the old relation between doctor and patient would be destroyed. Instead of the whole-hearted attention of a physician who is using every ounce of energy to give the highest medical skill possible, and who keeps his professional acumen at the keenest possible edge, he would most likely find the indifferent, devil-may-care attitude of the man whose reward is the same for much or for little effort; who has only to live long enough to attain the highest standing possible in his profession, and who can not feel the pride in his work that the individualist can. Imagine a doctor's being required to treat a certain number of patients per hour, regardless of what ails them, rather than to see how clever a diagnosis he can make in each individual case, whether simple enough to be dismissed in five minutes or complex enough to require his attention for an hour or more.

Methods used extensively in our state in the mining sections, where a certain amount is charged each month for medical care and additional amount charged for hospital care, has advantages over the methods outlined. Certainly the man is not overcharged nor is he an object of charity. The methods, though, in use in certain sections of the state under this plan, are not operated for the best interests of the patient nor the physicians.

The local physician receives his income entirely from the employees, yet is forced to treat all minor injuries, using in most cases, his own dressings without compensation except from the employee. All of these cases properly belong under the state compensation act.

Hospitals doing this list work are in many cases caring for all kinds of accident cases without compensation other than that received from the employee, thereby putting themselves in the position of doing a great deal of work each year for which they do not receive any remuneration, but relieving the coal operator from paying a fee to some physician for this work.

It is well to remember that each industrial accident case in this state has a potential income value to physicians and hospitals of $800.00. If we could all agree to force the various industries to live up to the laws now on our statute book, we would have accomplished a great good for the working man, as well as for ourselves.

A serious objection under the present plan is, that the employee, in many cases, does not have a say as to who his physician shall be nor the hospital to which he shall go, regardless of the fact that he is paying the entire bill.

Another, and by far the greatest objection, is, that an injured employee working under the list plan, has no appeal nor can he get assistance from the compensation department in selecting another surgeon or hospital, even though he knows he is not receiving the proper attention. If, in order to save his life or limb, he goes to another, he must bear personally all of his own expenses.

Another serious objection is, that the list usually includes all officials appearing on the payroll. In that way, men who draw large salaries are getting their medical care each month for less than they pay for cigars. These men, if they later move to another section where they must pay for any services rendered, are among the first to claim that they are being overcharged.

List work, as it is now being carried on in many hospitals in our state, destroys the relationship that should exist between physician and patient. The hospital doing this work usually holds it by keeping the good will of the coal operator, and may lose the contract any day by a mere gesture from the operator. The temptation is, therefore, too great to render decisions in favor of the operator against the poor, ignorant miner who has been injured. That this is not merely imaginary nor hypothetical, one has but to investigate to find many such cases of poor wrecks, who have been injured in mines and rendered unfit to earn a living, who have been robbed of their just compensation by means of trickery. In most of these cases, investigation will show that some physician, in order not to incur the ill will of tthe operator, has been a party to this deed.

It is neither my desire nor intention to make a blanket charge of wrongdoing against all medical men engaged in list work, for the very good reason that some of them are the finest and most highly respected physicians in our state, and are attempting to render the very same service that private patients receive. The same, though, can not be said of many others engaged in this work.

A system of practice that permits one hospital group to buy their patients at so much per head, can not be for the best interests of our profession. The custom in use by some hospitals engaged in this work, of deliberately underbidding another group in order to take their patients from them, is too well known to leave any doubt as to accuracy. It is extremely doubtful if the commercial world today, with its cruel and merciless competition, would tolerate such a practice if it were dealing with human lives and health.

It is not my wish to charge all coal operators with attempting or practicing unfair tactics with their employees. As a general rule, the small corporations and individual operators are anxious to do everything possible for all injured employees. It seems that some of the larger concerns are more inter-

ested in dividend returns than they are in the welfare of injured employees.

We are attempting, with fair success, to work out a plan in our section, using a method similar to the one now in use, of collecting a certain sum each month known as a hospital fund. Patients needing hospital care or special atteniton, may decide for themselves where to go. This fund will pay to the hospital the same rate per day that is allowed by the compensation department. The medical and surgical fees are reduced one-half. Cases belonging under the compensation department are not included in this list.

While we do not claim to have solved the problem, we feel that if something of the kind outlined can be worked out satisfactorily by the physicians and hospitals, then we, in our state, would have very nearly solved the problem of medical care for the working class.

The solution of the medical problem of the middle class is, after all, simple. It is for every family to select one physician for its medical adviser. This man should be selected with great care, then trusted as long as he is found worthy of confidence. If the right sort of man is chosen, and knows that he is the absolute guardian of the family health and that he is expected to call in the help of a specialist or a group of specialists when he deems it necessary, he will put forth his best efforts to merit this confidence. His professional pride, combined with a personal interest in his patient, will make him more anxious to get results than any specialist would be.

The modern family doctor is not necessarily a general practitioner, in the sense that he undertakes personally to practice all branches of medicine. Indeed, the modern family doctor is apt to limit his work somewhat; but he keeps so well informed along all medical lines that he is capable of wisely directing those who trust him. Undoubtedly, many patients with obscure ailments will be directed to individual specialists or to clinics; but the family doctor is abundantly able to take care of the great majority of the ailments that arise in his patients. Such a high authority as the Committee on Medical Education of the American Medical association has estimated that a capable general practitioner can care for from 80 to 90 per cent of the illness for which people consult doctors. The committee on the Cost of Medical Care has found that the famous "upper respiratory infections"—colds, influenza, and their near relatives—alone constitute 62 per cent of the usual disabling illness, with the diseases of childhood and other common ailments to be added. Does this seem as though there were no more work for the family doctor?

The conflict of opinions as to what is to be done to replace the family doctor, argues for his continued existence. The very fact that no satisfactory way has been found to get along without him, indicates that he is an essential part of the medical scheme. The medical man, who is meant to be a family doctor, can never be satisfied with any amount of success in another kind of work. In the present stage of medical evolution, this type of man is successfully adapting himself to his changing environment. While numerous lay and medical writers are penning more or less flattering obituaries of the old family doctor, the modern family doctor is busy making himself indispensable to as many families as he can serve.

MEAD'S BREWER'S YEAST

In the announcement of acceptance of Mead's Powdered Brewer's Yeast by the Council on Pharmacy and Chemistry (*Journal A.M.A.*, May 2, 1931, p. 1477) it was erroneously stated that this product assays approximately 1 vitamin B_2 (G unit) per Gm. It should have read 10 instead of 1. It was also erroneously stated that the unit of vitamin B_1 used for that amount of substance which, added to the diet of rats showing symptoms induced by deficiency of B_1 (F) would give an average weekly gain in weight of 3 Gm. for eight weeks. This should read 11 to 14 Gm. instead of 3 Gm. Another error was that the product offers not less than 0.98 unit of vitamin B_2 (G) per gram. This should have read 10 units instead of 0.98 unit. —*Journal A.M.A.*, July 11, 1931, p. 103.

CHRONIC DEAFNESS *

By WM. F. BECKNER, M.D.
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THE MAGNITUDE of this problem is difficult to estimate, for those afflicted with deafness tend to conceal their defect. No one knows the extent of the world of silence. The U. S. census of 1920 lists 45,000 deaf mutes; this includes those who are born deaf or who lose their hearing before the age of eight years; for up to this age they usually lose their ability to speak also. The examination of school children indicates that approximately ten per cent have some hearing defect. It is estimated that there are in the United States 3,000,000 children and 10,000,000 persons who have some defect of hearing.

Two conditions are necessary for normal hearing. First, an apparatus for collecting sound impulses or waves that originate in the outer air and conducting them to the internal ear, where they are brought in contact with the nerve terminals; this is accomplished through the medium of the external ear—auditory canal—tympanic membrane and the ossicles. The stability of this mechanism depends on equalized air pressure behind and in front of the drum.

Second, there must be a mechanism for transforming these sound waves into nerve impulses and conducting these nerve impulses to the centers in the brain where the perception of sound takes place; this is accomplished through the mechanism of the internal ear and auditory nerve. Defects in hearing caused by alterations in the conducting mechanism is obstruction or conduction deafness; defects causing alterations in the nerve mechanism is nerve or perception deafness. Deafness caused by defects in the conducting apparatus are usually not as severe as in the nerve type and are more amenable to treatment.

The eustachian tube is the medium through which an equalized air pressure is maintained in the middle ear—the tympanic or outer portion of this tube has a bony framework and is normally, constantly open—the pharyngeal or inner portion is a membraneous tube lined with ciliating columnar epithelium with the wave-like motion of the cilia toward the pharynx. When the tube is closed it forms two vertical walls—anterior and posterior. The posterior wall is supported by the right triangular cartilage, and the upper margin of this cartilage is hinged in a groove in the base of the skull while its lower margin is freely movable. The inner or pharyngeal border of the cartilage is free and projects slightly within the naso-pharynx to form the torus tubarius just back of the opening of the tube. The anterior wall of the tube rests on the tensor palati muscle and it in turn rests on the levator palati muscle and intervening fascia. These muscles run parallel with the tube, and the levator palati muscle is responsible for the opening of the tube.

The eustachian tube has a physiological rôle—that of equalizing the air pressure in the middle ear, and a protective rôle keeping infectious material from entering the middle ear by the wave-like motion of its ciliated lining. Until recently this was considered its only mode of protection; but Pitman[1] of New York has recently observed that the free margin of the triangular cartilage which projects into the naso-pharynx moves backward, upward and inward when the tube is opened; this sweeping movement keeps the orifice of the tube clean. He also observed that when changing from a vertical slit to a triangular opening this movement breaks up the surface tension of any secretion that may stretch across the orifice and causes the film

* Read before the Medical Review Society, Huntington, West Virginia, October 15, 1931.

to collapse and the orifice is kept free for the ventilation of the middle ear. The tube opens when the middle ear needs air, otherwise it stays closed to protect the middle ear from the naso-pharynx. You can readily see that if the tube is kept constantly closed, due to ankylosis of the alar catrilage, or thickening of the lining of the tube, the air will be absorbed in the middle ear, resulting in retracted drum, ankylosed and distorted ossicles and lessened middle ear cavity. On the other hand, if the tube is kept constantly open, the protective function of the tube is greatly diminished. When blowing the nose forcibly, or laying down on side of the head, infection and secretions will readily be carried to the middle ear, setting up a middle ear infection, which may be transmitted on to the labyrinth, producing deafness.

If the infection is arrested in the middle ear, we may have enough permanent pathology to impair seriously the hearing, for in chronic infection the epithelial lining in the tube is replaced by fibrous tissue and in the middle ear we have fibrous deposits around the ossicles ankylosing and distorting them and the middle ear cavity, and this fibrous replacement necessarily constricts the lumen of the blood vessels and impinges on the nerves so they do not give off proper nourishment and stimuli.

The hyperthrophied tonsil, on account of its anatomical position, is one of the chief causes of a pathologically open tube, for the inner extremity of the levator palati muscle is immediately above the dome of the tonsil.

Defects in hearing may be congenital or acquired. In the etiology of congenital deafness, heredity and consanguinity play an important rôle. Acquired deafness presents a much larger problem than congenital deafness. In this we have three age types. In the child we have the tubo-tympanic process that affects the hearing through some pathology in the conducting apparatus or tubes. In the adult we have the process known as chronic progressive (oto-sclerosis) deafness which leads to ankylosis of the stapes. Later in life there begins an equally insidious process which causes the degeneration of the nerve of hearing commonly spoken of as senile deafness.

Oto-sclerosis may come on independently of any tubo-tympanic process in childhood and we may have sensile degeneration of the eighth nerve without any previous trouble either tubo-tympanic or oto-sclerosis, or we may have all three conditions in the same patient.

Childhood is the most dangerous period as far as the ears are concerned. Statistics[2] show that in severe cases of deafness in children, over sixty per cent become deaf by the end of the third year. This has increased to eighty per cent by the fifth year and ninety per cent by the tenth year. The tubo-tympanic process rarely produces profound deafness if properly cared for and treated.

In the severe cases of acquired deafness there are two processes that may involve the hearing. One is a suppurative labyrinthitis, extending from the middle ear or through the meninges. The other process is the development of a degenerative neuritis of the eighth nerve due to toxins. The acute infectious fevers may produce either one or both conditions. Of the acute exanthemata producing deafness in children, meningitis heads the list. Measles is next, followed closely by scarlet fever. Whooping cough, diphtheria, and mumps may also produce deafness. Syphilis plays rather an insignificant rôle in deafness in children, when compared with meningitis, measles, and scarlet fever.

Meningitis causes a suppurative labyrinthitis more often than toxic neuritis and measles and scarlet fever more often produces the degenerative toxic type of deafness.

The acute infections in the nose and throat are very prolific of pathological conditions in the tube and middle ear.

In 1929[3] the American Triological Society observed one hundred consecutive cases of disease of the ear in children, and eighty-six per cent had an associated nasal sinus infec-

tion. In 1930, three hundred consecutive cases were observed with a corresponding result.

In searching out the causes of deafness it becomes apparent that attention must be directed to many organs and tissues outside the hearing apparatus, and though the disease of the ear may be directly responsible for the complication and deafness, both of these may be primarily dependent on lesions located elsewhere in the body; for instance, focal infections, disease in the nose and throat, chest and abdominal organs and metabolic dyscrasias. I do not believe nasal sinus disease has been given the proper attention in the rôle of deafness, for it has been observed that in deafness associated with sinus infection that improvement or diminution in hearing corresponds to improvement or relapse of the sinus condition.

Treatment.—You can readily see that prophylaxis rises to first importance. All pathology and infections in the nose and throat should receive prompt and vigorous attention. Diseased tonsils and adenoids should be removed so that there may be proper ventilation through the nostrils and naso-pharynx. All the acute or chronic upper respiratory infections should be regarded as a menace to hearing and treatment for their relief instituted. Some mothers somehow feel that their children must have the acute disease of childhood, and exercise little or no care to prevent their exposure to them, feeling that if children have these infections before school age they will lose less time from school. You can see what a mistaken idea this is when statistics show that eighty per cent of severe cases of deafness in children occur before school age.

Then immunization against the exanthemata should receive insistent attention, but after they are acquired they should be given prompt measures for the relief of the toxicity, and good ventilation of the nose and naso-pharynx should be maintained, and a constant watch kept for developments in the middle ear, and early myringotomy done when infection becomes manifest.

The treatment of nerve deafness is largely one of prevention. This also applies to oto-sclerosis. So very little is actually known about oto-sclerosis except that once established it is progressive, and treatment is of little or no avail. The only effective treatment so far begins before conception, namely, birth control. Heredity seems to have an important rôle in the etiology of oto-sclerosis; therefore, those who have a familial history of oto-sclerosis should be discouraged from bearing children.

If treatment for impaired hearing is to accomplish what it should it must be begun early, and I wish to emphasize this. The family physician and the pediatrician must assume some responsibility for a large number of cases of chronic deafness. I wonder how many doctors take the trouble to inquire into or test the hearing of their little patients, following attacks of acute upper respiratory infections, or exanthematas to see if there is any impairment of hearing. At this time very little treatment may be required to correct the condition, if it is of the tubo-tympanic type all that is usually necessary is to keep a normally patulous eustachian tube and gentle massage of the drum and ossicles, to prevent the formation of adhesions. The child will rarely notice or complain of deafness, for it does not cause pain, but will drift on to the chronic stage, enter school handicapped and get credit for being a dull student, and finally enter the battles of life a poorly equipped citizen.

Just recently I had a college graduate consult me about a chronic suppurative otitis media of eight years' duration, following an attack of scarlet fever. No physician had advised nor had he previously consulted an otologist; needless to say his hearing is permanently impaired, but since treatment was instituted he has practically a dry ear and hearing has improved about twenty-five per cent.

It is a well known fact that the loss of hearing predisposes to insanity more than the loss of any of the other "special senses."

While a great many people can get along fairly well with the ordinary occupations of life with four-fifths of their hearing destroyed our responsibility to the individual and society does not cease when we have exhausted all our means for the restoration of his hearing.

The hopelessly deaf are a class of individuals to whom the world is far from being charitably inclined. They lead miserable lives, sensitive to their affliction, construing it as a deformity which they must conceal. They are introspective, easily discouraged, acutely sensitive and feel that they are being ridiculed at every turn.

It is almost impossible to understand the psychology of the deaf. But if we stop to realize what it means to be eliminated from the intellectual intercourse of our friends and fellows, we will have more charity toward a class of people who are more than worthwhile, once we are able to get them out of their despondent state. A little self analysis should be taught them and autosuggestion; get them to saying and believing they are happy and useful and keep on saying and believing this instead of always thinking they are criticized and saying, "I am sad, I am always going to be sad." If we would practice more of this in our own profession we certainly would limit the field of Christian Science, chiropractors, naturopaths, etc. We should aid in the patient's home life, in his proper adjustments in the business world. One of the greatest aids to the deaf patient is lip reading. This service can be had in most towns of considerable size now and those who are markedly deaf should be encouraged to take it up and soon may change from grumpy dissatisfied individuals, railing against fate, to happy contented persons, realizing that life has not lost all its charm.

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THEELIN

And the Technic of Introduction of New Drugs.—For many years the Council on Pharmacy and Chemistry has fostered certain board principles governing the introduction of drugs. Often after a drug has shown promise of considerable merit it has been introduced through wrong channels or by misdirected publicity. To safeguard the scientific integrity and academic interests of the Doisy discovery of the crystalline sex hormone, the St. Louis University School of Medicine devised a plan on the basis of precedent which may serve as a guide to others in the introduction of a new medicament. Irrespective of whether or not theelin is found valuable for medical practice, Dr. Doisy and St. Louis University are to be congratulated on taking such precautionary steps, thus placing the introduction and control of the remedy on a high plane.—*Journal A.M.A.*, November 21, 1931, p. 1541.

HEALTH BUILDER NOT ACCEPTABLE

The Council on Physical Therapy reports that the Health Builder of the Sanitarium Equipment Company, Battle Creek, Michigan, is claimed to be a "mechanical means of administering massage and vibratory exercise." It consists essentially of an electric motor driving an oscillating mechanism which transmits a vibratory motion by means of a belt, or applicator, to the user. The council finds the Health Builder unacceptable for inclusion in its list of accepted devices for physical therapy because the firm advertises claims that are misleading, exaggerated or unwarranted; because the advertising and descriptive matter fails to give adequate warning of the dangers associated with its use; and because the firm uses an objectionable name for the apparatus.—*Journal A.M.A.*, November 14, 1931, p. 1466.

SYNOVIAL ADHESIONS

Another chemical adjunct to roentgen diagnosis seems to be available. With this new aid, altered permeability of synovial membranes can be determined and accurate pictures secured of synovial adhesions. This substance is a disodium salt of tetraiodo-orthosulphobenzoic acid. The substance is reported to be relatively nontoxic and to be well borne when injected.—*Jour. A.M.A.*

A DOCTOR LOOKS AT COUNTER PRESCRIBING *

By HOWARD T. PHILLIPS, M.D.
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WE BELIEVE most pharmacists and physicans are honest and that, if there could be a complete understanding between them, there would be far fewer difficulties. A frank discussion will do much towards ironing out the rough spots. As is the rule in all controversies, neither side is entirely at fault nor entirely correct. All too often a lightly spoken word may do a great deal of harm.

Take, for instance, the matter of "substitutions."

The pharmacist's reputation is frequently injured by a physician who alibis a slipshod diagnosis and a poor prescription by telling the patient that the pharmacist must have substituted some of the ingredients, since the medicine failed to please. Pharmacists have a reputation to sustain, as has the physician, and it would be extremely poor business on their part, even if no ethical principles were involved, to acquire a reputation for "substituting." Frankly, I believe this is very seldom done; however, substituting is not the subject of this paper.

Again repeating that we believe most pharmacists and physicians are honest and basically sound, and that most disagreements come from a lack of understanding between the two professions, I venture to offer a few remarks on counter-prescribing. The mentioning of counter-prescribing at once brings up that other controversial point, dispensing by the physician. I am not here to advocate or condemn this practice by physicians; that, in itself, is subject for a paper in itself, and the time at hand is not sufficient to discuss it. Suffice it to say that legally the physician has a right to dispense his own prescriptions and, in some localities, of necessity must do so. But when a competent, reliable pharmacist is available, dispensing by the physician is a matter of choice and is the subject of much controversy. Let me say that I believe the trend among the younger men is away from dispensing and towards the prescription. In ten years of practice, I have not dispensed to any patient nor have I felt the need of doing so. Perhaps this fact intensifies my feeling that the pharmacist who counter-prescribes is not playing the game fairly.

By counter-prescribing I mean the practice of a pharmacist selling to the customer a drug, prescription or patent medicine which he, the pharmacist, advises after the recital by the customer of his symptoms or complaints. There is no fault to be found with the pharmacist who sells to the customer a drug or patent medicine when asked for specifically, whether or not the customer presents a physician's prescription. A pharmacist is entirely within his own province in selling to the customer aspirin, U.S.P. sulphur ointment, etcetera, when the customer requests these products by name, but I maintain the pharmacist is wrong in recommending aspirin for a headache or sulphur ointment for scabies, for in so doing he is exercising the office of a physician.

Counter-prescribing, as defined above, is not merely a controversial subject of ethics between the physician and pharmacist, but has been given a legal aspect in a case where a pharmacist has been fined and his license revoked upon a conviction of counter-prescribing for a venereal disease. If the practice of counter-prescribing for a venereal disease is unlawful and an indictment and conviction is justifiable and possible, then, in principle at least, counter-prescribing for any disease is automatically placed in the same category, whether the condition be trivial or serious. A pharmacist, perhaps without thinking of the

* Address delivered at the silver anniversary convention of the West Virginia State Pharmaceutical Association, June 17, 1931. Reprinted from *The Druggist Circular*.

ethics and legality of his action, may prescribe for a cold or headache but, in so doing, he is in error just as though he were prescribing for a venereal disease which, due to its social and hygienic aspects, has commanded the attention of the federal and state governments to such an extent that advertisements to the public for treatment are prohibited by law.

Aside from the illegality of counter-prescribing, the pharmacist subjects himself to personal liability should his prescription incur the disfavor or do injury to his customer. Numerous examples in my own experience can be recalled where a customer had basis for legal action against a pharmacist. In two cases concealment of facts, together with lack of encouragement to the customer, I am certain, prevented a personal liability suit against the pharmacist.

In one case, the pharmacist was asked to prescribe something to remove warts and sold the customer a vial of glacial acetic acid, telling her to apply same on the end of a toothpick to each wart. The customer failed to tell him the warts were on her eyelids, but this fact did not excuse the pharmacist in her mind nor did it prevent her from threatening suit when blindness nearly resulted following the application.

Another example was that of a gangerene of the leg, which was caused by the application of a seven per cent phenol salve recommended and compounded by a pharmacist when asked by a customer to give her something to take the itch out of a patch of eczema.

I, of course, do not consider the refilling of a prescription when requested by the patient a procedure to be questioned except in the case of repeated refills of a prescription containing a potentially dangerous drug. The druggist can do both the patient and the physician a real service in calling the physician's attention to such prescriptions, for often the physician expects the patient to return for observation instead of continuing the same prescription indefinitely.

Preparations containing silver, even in small doses, continued over a long period of time may produce argyria, which permanently discolors the skin of a Caucasian until he resembles an Ethiopian. The repeated applications of sulphur ointment produce a dermatitis which is more annoying and harder to cure than the scabies for which the patient was originally treated. In certain cases the physician is actually at fault because he does not put on his prescription "Do Not Refill." Admitting that the pharmacist has the right to refill indefinitely any prescription which does not bear "Do Not Refill," and admitting that the physician is technically at fault, this furnishes a good example of where friendly cooperation reflects the honesty of purpose of the pharmacist, saves the patient the consequences of the too-long correct use of a hazardous drug and corrects the possible harmful results of the physician's negligence in not properly guarding against refills.

If, in addition to proving that counter-prescribing is ethically and legally wrong, I can show you that, financially, the pharmacist, the physician, and the customer benefit when it is not practiced, then its strongest advocates must weaken and capitulate. My suggestion is that the pharmacist, instead of counter-prescribing, refer the customer to a physician for the diagnosis and treatment of his ailment. Now, if the proper cöoperation, goodwill and honesty of purpose exists between the pharmacist and the physician, the physician who diagnosis and prescribes for the patient will insist that the prescription be filled by the referring pharmacist and he can make certain of this fact by phoning the prescription direct to the pharmacist instead of handing it to the patient. The pharmacist thus makes a sale and profit, just as though he had counter-prescribed and, in addition, he makes a friend of the physician and a more permanent customer of the patient. The latter must feel that such a pharmacist is thoroughly conscientious and reliable and has his best interests at heart.

In addition to the profit from the initial prescription, there is often added profit from refills. One pharmacist who has consistently

referred patients to their respective physicians tells us that this procedure, as it has worked out in his case, is actually productive of greater monetary returns than if he had counter-prescribed. In addition, he avoids the possibility of criticism by the customer which results when a counter-prescription fails to benefit, and he eliminates the possibility of personal liability, should the counter-prescribed remedy do harm.

I suggest the discontinuance of complimentary prescription pads bearing the name of your pharmacy. My practice has been to supply my own prescription pads and to refer the patient to his family pharmacist unless referred to me by some other pharmacy, in which case I endeavor to have the prescription filled by the referring pharmacist. This procedure, as I have observed it, produces a general friendliness and goodwill and promotes the feeling among the pharmacists that all have an equal chance in the filling of a physician's prescriptions.

Some pharmacists may justify their practice of counter-prescribing because of the real or imaginary injurious acts of physicians against them. One wrong act or erroneous principle can never make another false act or principle correct. Only by squarely meeting, adjusting and correcting disagreements between allied groups can harmony be established and maintained.

The basic thought is to promote such harmony between pharmacist and phycisian.

THE COST OF DRUGS

A comparison of the prices of drugs sold respectively under protected and non-protected names shows that the cost of the former is far in excess of the price for which the latter are sold. A comparison of the wholesale price of proprietaries compared with the cost of the drugs sold under their non-proprietary name shows that the total cost of one ounce each of these under a protected name is $25.30 while the cost of an ounce each under an unprotected name is but $6.40. The cost of the proprietary name to the consumer is $18.90.—*Journal A.M.A.*, October 24, 1931, p. 1226.

CASE REPORTS

MECKEL'S DIVERTICULUM IN AN INTUSSUSCEPTION

By C. B. PRIDE, M.D.
Morgantown, W. Va.

The proximal portion of the vitelline duct (Meckel's diverticulum) persists in nearly two per cent of all individuals. Occasionally it becomes inflammed and only rarely does it become inverted and lead to an intussusception.

A well nourished boy, aged 13, was admitted to Monongalia Hospital in June, 1926. The day before admission he developed abdominal cramps and castor oil was administered by his mother. The cramps became more severe and vomiting occurred whenever he ate or drank. He cried out at intervals varying from two to five minutes, complaining of colicky pain in the right side of his abdomen. During the interim there was no pain. He had no bowel movement.

Physical Examination.—A firm, tender mass, the size of an orange, was palpated just to the right and below the umbilicus. The abdomen was moderately distended. Rectal examination was negative except for blood stained mucus on the examining finger. Temperatude 101 degrees F., pulse 120, respiration 20, leukocyte count 10,000.

Operation.—Free fluid was encountered upon opening the peritoneum and a hard, sausage shaped, telescoping mass was present in the ileocecal region. The invaginated bowel was easily reduced. On the distal end of the intussusceptum which had extended into the cecum was a gangrenous Meckel's diverticulum two and one-half inches long and two-thirds of an inch in diameter. It was on the free border of the ileum approximately eight inches from the ileocecal valve. Diverticulectomy was performed with the cautery and the ligated stump was inverted. The involved bowel, except for moderate congestion, was not damaged. The recovery was uneventful.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

PRESENT STATUS OF TUBERCULOSIS CONTROL

This year marks the fiftieth anniversary of the discovery of the tubercle bacillus by Koch. That event gave intelligence and direction to man's attempt to master his age-old enemy. During the past three decades, the fight has become an organized one. The decline in the death rate has shown consistent acceleration, though a decisive victory is not yet within grasp. At this fitting period in the movement, P. P. Jacobs, veteran tuberculosis worker, gives us a lucid statement of the presentsituation in his book, "The Control of Tuberculosis in the United States." To give a balanced picture of the contents of this tersely written volume on a very broad subject is impossible—a few highlights must suffice to suggest its general flavor.

In 1889, Hermann Biggs, at the request of the Commissioner of Health of New York City, formulated a statement concerning the communicability of tuberculosis and outlining a plan of attack against it. Indifference and antagonism greeted the plan, for Biggs was far ahead of his time. The Commissioner nevertheless issued a circular on "Contagious Consumption," and this marks the first step in the educational campaign. Four years later, Biggs' original report formed the nucleus of a more complete scheme. The struggle to secure its adoption was tedious but succeeded at last.

Briefly, the program recommended included (1) education of the public, (2) compulsory reporting of cases by public institutions and the recommendation that physicians report private cases, (3) home visitation of patients, (4) the provision by general hospitals of separate wards for tuberculous patients, (5) the provision of a "consumptive hospital," (6) the establishment of laboratory facilities. In time, other measures, such as public health nursing, clinic service, organization of voluntary associations, sanitary measures, etc., were added. The compulsory notification of tuberculosis by all physicians and householders became law in 1897.

Meantime, Sir Robert Philip in Scotland was steadily establishing "The Edinburgh Anti-Tuberculosis Scheme," first proposed in 1887. His plan emphasized the need of searching out cases at home and pivoted about the out-patient departments of hospitals. This gave the movement in Great Britain a somewhat different trend but also influenced American thought. In the United States, the campaign was characterized by the participation of non-official agencies. Well organized health departments were few; there was need for leadership. The first voluntary organization was the Pennsylvania Tuberculosis Society, founded in 1892. Others followed, and in 1904 the National Tuberculosis Association came into being with Trudeau as its first president. The Sixth International Congress on Tuberculosis, held in Washington in 1908, crystalized opinion and unified the several efforts into a nation-wide movement.

Method of Control.—Part II of the book describes the methods employed in the control of tuberculosis. The most important premise of the founders was that an enlightened public opinion is essential in any scheme of tuberculosis control, and further that sound knowledge about the disease is the individual's chief protection. The keynote, therefore, was education. Early efforts in this direction were naturally somewhat awkward but soon became surprisingly effective. With experience has come the conviction that the process of stirring the people out of their lethargy and enlightening them, vaguely expressed in the magic word, "education," depends upon certain techniques of publicity and organization.

The molding of public opinion, the establishment of control machinery, the maintenance of treatment facilities and so on, involve procedures which are today fairly well standardized. Separate chapters of Part II deal individually with these methods. A few chapter headings will serve as examples: Adult Health Education; The Spoken Word; Child Health Education; Case Finding; Statistics and Surveys; Fund Raising.

Scientific Basis of Control.—Part III addresses itself to the fundamental policies of the tuberculosis movement in the United States, one chapter of which deals with the scientific basis of the program of action. New discoveries have gradually influenced the movement. For example, at first little distinction was made between minute or gradual dosage of tubercle bacilli and massive dosage. Many fondly hoped that it was possible to control infection by such measures as those directed against spitting.

Modern conceptions of infection have greatly modified this hypothesis.

The first postulate accepted today is that the tubercle bacillus, the sole direct cause of tuberculosis, is passed from man to man and from cattle to man. It is conceded that at least 90 per cent of infection is transmitted directly from one human being to another by sneezing, coughing, kissing, etc., and by direct contact with moist or dried tuberculous sputum. Dust-borne infection is probably of minor consequence.

The prevalence of infection rises gradually from infancy until at adult life it may include some 80 to 95 per cent of the adult population. Morbidity or actual disease, however, is relatively very low. A long interval usually elapses between infection and the manifestations of disease, but these are not uncommonly precipitated by collateral events in the life of the individual. The ultimate suppression of tuberculosis is held by some to be a possibility.

The events leading to disease follow a fairly definite sequence. The influence of heredity has been discarded, but the infant born in a tuberculous *milieu* can hardly escape severe infection. Casual contact accounts for most cases of milder infection. The first infection, if severe (but not severe enough to cause immediate death) usually expresses itself in a primary focus, small or large, with involvement of the tracheobronchial lymph nodes. Consequently, allergy or sensitization is established. This physiologic-pathological complex is designated as childhood type of tuberculosis. The early pathology may disappear beyond recognition or it may remain latent many years, evidencing itself only by x-ray shadows. Very frequently, reinfection takes place in early adult life and, favored by circumstances that tax the resisting powers of the individual, the adult type of disease, characterized by destruction of tissue, may follow.

What of Immunity?—Whether infection will fortify the body against further inroads of the tubercle bacillus or predispose it to the adult type is dependent upon various circumstances and influences, some of which can be controlled. Acquired immunity is insufficient to protect the individual against disease if repeated doses or an extremely large dose of bacilli enter the body. The contributory factors of tuberculosis morbidity include anything and everying that adversely influence the health of man. Attempts to produce artificial immunity have not yet succeeded. At the present time, it seems unwise to extend the use of BCG, except for experimental purposes.

The treatment of tuberculosis is based on the assumption that rest, fresh air, good food, and freedom from worry, plus medical supervision, will bring about a natural process of healing. Climate has little, if any, specific value, but there is much to be said in favor of certain types of air conditions. Surgery and light are important adjuncts to the treatment.

On these general premises, the plan for preventing and controlling the disease is based. While alarm is expressed by some to the effect that the detuberculization of the population may produce a race of high susceptibility to tuberculosis, others hold that increased intelligence and eternal vigilance will protect against a recurring disastrous infection.

Part IV describes a number of illustrative programs and thus brings to a focus the general principles discussed in previous chapters. Throughout the book, the reader desiring special information is referred to original and pertinent sources with a discrimination born of the rich experience of the author.—*The Control of Tuberculosis in the United States, P. P. Jacobs, Ph.D.*

RHEUMATOID ARTHRITIS

Edith E. Nicholls and Wendell J. Stainsby, New York (*Journal A.M.A.*, Oct. 17, 1931), describe experiments in which they noted that the serum of patients with rheumatoid arthritis give a strong specific agglutination reaction with "typical strain" streptococci recoverable from the blood and joints of patients with rheumatoid arthritis. Such a reaction suggests that this type of hemolytic streptococcus is of etiologic importance in the disease. A close antigenic relationship between "typical strain" streptococci and the hemolytic streptococci from scarlet fever and erysipelas is established. Rheumatoid artheritis can be differentiated from osteoarthritis, chronic gout, gonococcal arthritis and other joint diseases by the agglutination reaction. The agglutination reaction, when supplemented by the sedimentation test, not only offers a valuable aid in differential diagnosis of arthritic conditions, but also affords an estimate of the activity of the disease and the progress of the patient.

PRESIDENT'S PAGE

MEMBERS of our profession are convinced, after trying experiences, that we are not good business men.

In the past few years, many of us in our quest for financial fame have forgotten our heritage and the traditions of our profession;—traditions that should be more precious than silver and gold. Throughout the ages people have looked to our profession for guidance in sickness and the combating of disease. Many agencies are now seeking to take this privilege from us. We must blame ourselves for the condition because, as an association, we have been negligent and indifferent. We place too much stress at county and state meetings on scientific subjects and too little on the economics of medicine.

May I remind you that there are about five thousand patients in the insane asylums of West Virginia? With few exceptions, nothing is being done towards the cure of these patients. The only classifications are sex, violent and non-violent. No adequate laboratory is maintained. Almost no surgical equipment is present. Surely, some of these patients must at times suffer for need of an operation.

I do not care to offer criticism of those at the head of these institutions, but, rather, of the system so long in use there. The medical superintendent is required to act as business manager and often as manager of the farm, the dairy, and other business activities. Can we expect him to have much time for the study of his patients? He is responsible only to the governor and board of control, all of whom are laymen. Your very efficient State Health Department, under present laws, has neither authority nor power over any state institution or its personnel.

As physicians, we should no longer ignore the fact that these five thousand patients confined in state institutions, which are no more than houses of detention, were once our private patients. We owe them a debt that can not be paid by merely turning them over to the state. The care and handling of the sick and unfortunate is too vital a matter to be left in the hands of politicians.

Again, let me add that I am not making a blanket charge of inefficiency against the superintendents of our state institutions nor of the personnel in charge. I shall, however, continue to criticize any system that, by a mere change in state officials, will remove a good and competent personnel for no other reason than the payment of political debts.

As a profession, we should demand that a change be made in our laws, giving the Health Department more power and control over the state institutions and the treatment of those unfortunates confined therein.

Albert H. Hoge

President.

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AN IMPORTANT RESOLUTION

Members of the Association will, we feel sure, welcome the news that Dr. James R. Bloss, Huntington, has been proposed as a candidate by our State Council for membership on the Board of Trustees of the American Medical Association. The election to this important office is to be held at the New Orleans meeting of the A.M.A. House of Delegates next May.

In recognition of his many great services to organized medicine in West Virginia, the Council at its annual meeting on December 29 adopted a resolution proposing the name of Dr. Bloss for the office of A.M.A. trustee. So far as it is known, West Virginia has never had an official of the American Medical Association. The Council felt that Dr. Bloss, having served twelve years as a member of the A.M.A. House of Delegates, would have an excellent chance for election.

The election of Dr. Bloss as a trustee of the American Medical Association would be welcome news not only to the membership of the West Virginia State Medical Association but to his host of professional friends and admirers throughout the United States. In the national field of organized medicine, Dr. Bloss is recognized as a man of the keenest intellect and foresight and we are sure he would make a valuable addition to the official family of the A.M.A.

The JOURNAL, without the knowledge of Dr. Bloss, hereby extends its best wishes to those who are putting him forward as a candidate. If West Virginia is honored through the person of Dr. Bloss, we are sure these new laurels will be worn with modesty and with wisdom.

THE VETERAN HOSPITAL PROBLEM

At the headquarters of the American Medical Association in Chicago, a conference was held on December 30, 1931, between officers of the American Legion, the American Hospital Association, the United States Veterans' Administration and the American Medical Association. The question under discussion was the present method of hospitalization of veterans, and veterans' legislation was discussed from almost every angle.

The position of the Veterans' Administration was most encouraging. They were not interested in perpetuating a system of federal medicine, being, in fact, very much opposed to such a system, as it was very sympathetic to the practice of medicine. The Veterans' Administration also strongly urged the care of acute disease and emergency surgery as convenient as possible to home at the expense of the government. It was brought out that there was no need for increase in tuberculosis hospitals but it was claimed that there was a great need for more hospitals for patients suffering from nervous and mental diseases, as patients with mental diseases were being compensated by the government and yet were at large.

It was generally agreed that this type of patient demanded hospitalization; that the hospital building program of the future should be confined to this group, and that this building program should fit in as nearly as possible with future civilian needs for this type of hospital. It was also shown that the hospital building program of the present was not by any means determined by the Legion or Veterans' Administration, but largely by Congressmen.

A tentative agreement was suggested at this Conference which embodied: (1) that the hospital building program should stop,

except for the erection of hospitals for the care of patients suffering from nervous and mental diseases, and all building plans should be modified to meet the future needs of the civilian population by location and distribution; (2) that a modification of veterans' legislation should be asked, allowing that veterans be taken care of in the civilian hospitals at home and that all acute surgical and medical conditions should be so cared for.

Dr. C. B. Wright, chairman of the A.M.A. committee on legislative activities, has summed up what he feels was accomplished by this conference.

1. A far better understanding of each other's point of view.

2. A better understanding of the Veterans' Administration.

3. An opportunity on the part of the American Medical Association to perform a real service in helping to simplify the disability rating schedule of the Veterans' Administration.

4. A tentative platform on which we can all stand; that is, agreement on revising the law so that veterans may be taken care of by home doctors and hospitals; and, second, a termination of hospital building, except when necessary for the care of patients suffering from nervous and mental diseases, and modified as far as possible to fit in with the civilian hospital of the future.

The next conference between representatives of the same organizations will be held in Washington on February 1-3, 1932.

OVALTINE

Ovaltine, a product known through extensive advertising, is sold with exaggerated claims. Although it claims to produce sleppiness if drunk before bedtime, warm milk will do just as well. Although the advertising states that it contains vitamine D, there is no way for the public to know whether that vitamin content is preserved in the finished product, nor to be assured that the amount is sufficient to be of any service whatsoever. The composition of Ovaltine is kept a mystery, and even if it did contain what the manufacturer says it does, it could not do the things the manufacturer says it will, an editorial in *Hygeia* elucidates.

OBITUARY

DR. ERNEST R. LOGAN

Dr. Ernest Roy Logan of Omar, Logan County, died at the Hatfield-Lawson Hospital, Logan, on January 13 after a brief acute illness of pneumonia complicating a long standing mitral stenosis with dilated heart. Dr. Logan was one of the best known and most popular physicians of the county, having practiced medicine in Logan County for some eight years.

He was born at Van Wert, Ohio, on August 28, 1890. He graduated from the Van Wert high school, enlisted in the marine corps and served during the Boxer Uprising in China, saw action later in the Philippine Islands where he was badly wounded, and won a congressional medal for distinguished service.

Upon his return from the Philippines he studied medicine at the Ohio State University Medical school and was graduated in 1916. During the World War he was a first lieutenant in the United States navy. He was a member of the Masonic Order, American Legion, and active in Boy Scout work. He was an active member of the county and state medical societies, and of the American Medical Association.

Funeral services were held at Omar on January 14 and the body was taken to the town of his birth for interment. He leaves a devoted wife and one daughter, age nine years, as well as other relatives and hosts of friends to mourn his death.

DR. ELMER PERRY

Dr. Elmer Perry, 63 years old, a prominent retired physician of Fort Spring, Greenbrier County, died unexpectedly at his home on January 7, 1932. Suffering asthma, he was forced to retire from active practice several years ago.

He is survived by his widow, who was Miss Mattie Curry, of Fort Spring; four sons, Elmer, Frank, John, and Bobby; one daughter, Evelyn, all at home; one brother, John B. Perry, of Bramwell, and a sister, Mrs. R. D. Alderson, of Lewisburg. Another brother, the late Dr. Mark Perry, was for many years superintendent of the state hospital at Weston.

Funeral services were held at the residence, conducted by Rev. W. A. Benfield, of Sinks Grove Presbyterian church, with burial in Mount Vernon cemetery at Fort Spring.

COUNTY SOCIETY NEWS

GRANT-HARDY-HAMPSHIRE-MINERAL

Dr. Glenn Moomau of Petersburg was elected president of the Grant-Hardy-Hampshire-Mineral County Medical Society at the regular meeting held in December. Dr. Moomau succeeds Dr. M. F. Wright of Burlington, who served during 1931.

Vice-presidents elected at the December meeting were Dr. J. B. Grove, Petersburg; Dr. Harry Rawlings, Jr., Wardensville; Dr. James Daily, Romney; Dr. James T. Wolverton, Piedmont, and Dr. S. B. Johnson, Keyser. Dr. T. C. Giffin was re-elected secretary-treasurer.

Delegates to the state meeting at Parkersburg next June will be Dr. M. H. Maxwell, Keyser, and Dr. J. B. Grove, Petersburg. Alternates are Dr. Robert Bess, Keyser, and Dr. V. L. Dyer, Petersburg.

T. C. GIFFIN, Secretary.

MONONGALIA COUNTY

An unusually interesting program was presented at the January 5 meeting of the Monongalia County Medical Society, which was held in the Junior High School library, Morgantown. There was a good attendance.

The meeting was opened by Dr. Dorsey Brannan whose subject was "Demonstration of the Aschheim-Zondek Test for Pregnancy." Dr. Brannon was followed by Dr. R. S. Rilling, whose subject was "Uterine Hemorrhage." Both of these subjects were discussed at length by the members present.

G. R. MAXWELL, Secretary.

MARSHALL COUNTY

Dr. O. P. Wilson was named president of the Marshall County Medical Society at its regular December meeting at the Merry Tavern, Moundsville. He succeeds Dr. Robert A. Ashworth.

Dr. S. F. Yoho was elected vice-president. Dr. J. A. Striebich was re-elected secretary, having held the post for many years. Dr. L. H. McCusky was named treasurer.

The Board of Censors was chosen as follows: Dr. J. C. Peck, Dr. D. B. Ealy, and Dr. Charles G. Morgan. The new officers will assume office in 1932.

All but a few of the members attended the December session. A committee was appointed to draft a resolution in reverence to Dr. C. F. Fortney, member of the society who died at his home in Hundred. A reverential tribute was paid the well known Marshall county physician by his colleagues at the meeting. The committee named to draw up the resolution is composed of Dr. O. F. Covert, Dr. J. A. Striebich, and Dr. Charles G. Morgan.

The meeting began with a business session at 4:00 o'clock in the afternoon, at which officers were elected. Dr. Robert Reed, Jr., of Wheeling, presented an essay on the "Management of Obstetrical and Gynecological Problems."

Dr. Covert of Moundsville, who is head of the State Tuberculosis Association and clinician at Grandview sanatorium, outlined a clinical case from various angles by Dr. A. L. Osterman, Wheeling psychiatrist.

A chicken dinner was served to the following medical men at 6:00 o'clock: Drs. Robert Reed, A. L. Osterman, O. F. Covert, J. E. Arnold, Sidney F. Yoho, Charles G. Morgan, W. P. Bonar, J. H. Luikart, L. H. McCusky, J. C. Peck, A. R. Ashworth, O. P. Wilson, J. A. Striebich, Harold Ashworth, and J. W. Neidermyer, McMechen.

JOSEPH A. STRIEBICH, Secretary.

EASTERN PANHANDLE

The last quarterly meeting of the Eastern Panhandle Medical Association was held December 9 in the Gold Room of the Shenandoah Hotel, Martinsburg. Officers for the coming year were elected as follows: President, R. B. Talbott; Vice-President, J. J. Pittman; Secretary-Treasurer, Edwin Cameron; and Censor, J. M. Miller.

Following the dinner and election of officers, Dr. Richard TeLinde, of Baltimore, presented a paper on the subject of "Bleeding After the Menopause." Dr. TeLinde's paper was interesting and well received by the society.

WYOMING COUNTY

At the regular meeting of the Wyoming County Medical Society held December 28, 1931, the following officers were elected: Dr. J. F. Biggart, President; Dr. B. W. Steele, Vice-President; Dr. Ward Wylie, Secretary and Treasurer; Dr. T. W. Heironimus, Delegate, and Dr. D. D. Wilkenson, alternate Secretary and Treasurer.

The scientific program was rendered by Dr. Albert Hoge, President of the West Virginia State Medical Association. The subject of his address was "The Future of Medicine." He urged that

the medical profession and its members unite in order that the profession may be held to its high standards and that the doctors of tomorrow may have a well founded field in which to work.

Following the business session, Dr. D. D. Wilkenson was presented for membership and was unanimously elected.

The next meeting will be held the first week in April at which time Dr. K. G. Khorozian will be in charge of the program.

WARD WYLIE, Secretary.

OHIO COUNTY

Dr. Joseph Colt Bloodgood, Baltimore, was the scientific essayist at the January 8 meeting of the Ohio County Medical Society which was held in the Solarium of the Ohio Valley General Hospital, Wheeling. Dr. Bloodgood's subject was "What Every Physician Should Know About Cancer for the Protection of His Family, His Patient and Himself." Discussion was opened by Dr. E. L. Armbrecht, Dr. D. A. MacGregor and Dr. W. T. McClure.

On the afternoon of January 8, Dr. Bloodgood held three one-hour meetings in the Ohio Valley Hospital solarium beginning at 2:00 o'clock, for dentists, pathologists, and röentgenologists and surgeons.

Dr. Emil Novak of Baltimore was the scientific essayist at the January 22 meeting of the Ohio County Medical Society which was held in the Solarium of the Ohio Valley General Hospital, Wheeling. The meeting started promptly at 8:30 o'clock p. m., with Dr. W. P. Sammons, president, presiding.

Dr. Novak's subject was "Cause and Treatment of Functional Uterine Bleeding." This was a most interesting presentation. Discussion was opened by Dr. W. A. Cracraft, Dr. J. O. Howells, and Dr. J. G. Thoner.

H. C. HARPFER, Secretary.

LOGAN COUNTY

The annual election of officers of the Logan County Medical Society was held following a banquet at the Aracoma Hotel, Logan, on the evening of December 18. Dr. H. H. Farley, Logan, was elected President; Dr. B. D. Smith, Omar, Vice-President, and Dr. Fred E. Brammer, Dehue, Secretary-Treasurer.

There were nineteen members in attendance at this meeting. No formal program was rendered, but following the election of officers the members joined in an informal discussion of affairs pertinent to their work.

The January meeting of the Logan County Medical Society was held at the Hatfield-Lawson Hospital on the evening of January 20 with the excellent attendance of twenty-five members. The essayists of the evening were Dr. V. T. Churchman, Sr., of Charleston, who gave a very interesting talk on "Industrial Eye Injuries," and Dr. W. W. Point, of Charleston, who gave a talk, also very interesting, on "The Average Normal Case in Obstetrics." These talks were most favorably received by the members present, most of whom joined in an informal discussion of the subjects.

Suitable resolutions were adopted regarding the death of two of our members, Dr. J. H. May, who died last summer, and Dr. E. R. Logan, who died the 13th of the present month. Also a resolution was adopted recommending to the Logan County Coal Operators Association physical examination of their employees.

FRED E. BRAMMER, Secretary.

MARION COUNTY

The regular monthly meeting of the Marion County Medical Society was held at the Fairmont Hotel, Fairmont, at 6 o'clock on the evening of December 29, 1931. Papers and discussions were dispensed with and the election of officers for 1932 was held.

Dr. Grady Morgan was elected president for the coming year with Dr. D. D. Hamilton, vice-president, Dr. Charles T. Francis, secretary, and Dr. C. W. Waddell, treasurer. Dr. J. O. Offner, Dr. H. S. Keister, and Dr. Philip Johnson were elected to serve on the Board of Censors.

Delegates to the state meeting at Parkersburg next June will be Dr. L. N. Yost, Dr. A. H. Stephens, and Dr. E. W. Howard. Alternates will be Dr. C. J. Carter, Dr. W. A. Welton, and Dr. W. W. Orr.

Following the election of officers, a four-reel motion picture was presented on "Traumatic Surgery of the Extremities."

PHILIP JOHNSON, Secretary.

MINGO COUNTY

The Mingo County Medical Society held its regular monthly meeting at the Williamson Memorial Hospital on the evening of December 9, with a good attendance. The election of officers was

held and resulted in the unanimous election of Dr. L. S. Henley as president, Dr. G. W. Easley as vice-president, and Dr. Fred Ben Quincy as secretary-treasurer.

Dr. G. B. Irvine, Dr. R. A. Salton, and Dr. O. H. Jennings were elected to comprise the Board of Censors of the society.

The matter of school child immunization was discussed in general by Drs. T. D. Burgess, W. H. Burgess, G. T. Conley, R. A. Salton, G. W. Easley, L. S. Henley, J. C. Lawson, O. H. Jennings, and F. B. Quincy.

The secretary was directed to invite Drs. Ray M. Bobbitt and Francis A. Scott, both of Huntington, to give papers at the first meeting in January.

The business session was dispensed with at the January meeting of the Mingo County Medical Society, which was held at the Williamson Memorial Hospital, and the entire evening was turned over to Drs. Ray M. Bobbitt and Francis A. Scott of Huntington. Dr. Bobbitt spoke of "Urological Symptoms," and Dr. Scott on "Derangements of the Knee Joint."

Each essayist gave a masterpiece in his own specialty. We were, indeed, glad to have them with us and a sincere invitation to return again soon was extended by the society. This was the initial meeting under the leadership of Dr. Henley and speaks well for his first effort as a medical society official.

The attendance was the largest in months and certainly the most appreciative. After the papers a luncheon was served by the hospital staff. It was a great meeting and we hope marks the beginning of a new era in the history of this society.

F. B. QUINCY, Secretary.

MERCER COUNTY

The regular monthly meeting of the Mercer County Medical Society was held in the Municipal Building, Bluefield, on the evening of January 21 with nineteen members and two visitors in attendance. A brief business session was held preceding the scientific program.

The scientific program consisted of a symposium on "The Present Status of Anaemia." The subjects were presented by Dr. Huston St. Clair on "Etiology," by Dr. J. I. Markell on "Pathology," by Dr. W. D. Fitzhugh on "Symptoms," by Dr. M. W. Sinclair on "Diagnosis," by Dr. Albert H. Hoge on "Treatment," and by Drs. W. H. St. Clair, C. M. Scott, and T. E. Vass on "Surgical Aspect."

This was an especially interesting program which was greatly appreciated by the society. The program committee was complimented upon this excellent arrangement.

R. R. STUART, Secretary.

CENTRAL TRI-STATE

An excellent meeting of the Central Tri-State Medical Society was held at the Hotel Pritchard, Huntington, on the afternoon of January 21 with a good attendance. The scientific essayists were Dr. Harold Thomas Hyman, New York City; Dr. A. C. Furstenburg, Associate Professor of Oto Laryngology at the University of Michigan, and Dr. George W. Crile, Cleveland.

Dr. Hyman presented his paper on the subject, "Pharmacology of Circulatory Drugs, Including Recent Observations on the Use of Drugs in Hypertension." He was followed by Dr. Furstenburg, whose paper was on "Acute Suppurations in the Throat, Neck and Mediastinum." Dr. Crile concluded the program with a paper on "A New Principle in the Prevention of Post-Operative Pneumonia, Cardiac Decompensation and Suppression of the Urine."

The Medical Review Society of Huntington was host to a number of the visiting doctors that evening, when the second annual Claude A. Latham Memorial Lecture was delivered by Dr. Crile. His subject for the lecture was "Sympathetic Denervation of the Adrenals in Neuro-Circulatory Asthenia."

J. S. KLUMPP, Secretary.

CABELL COUNTY

Dr. Raymond M. Sloan of Huntington, who for the past several years has served as secretary of the Cabell County Medical Society, was elected president at the regular December meeting. He succeeds Dr. C. G. Willis, who served in 1931.

Other officers elected at the December meeting were Dr. W. Byrd Hunter, Vice-President; Dr. William W. Strange, Secretary, and Dr. Ray M. Bobbitt, re-elected Treasurer. Dr. J. C. Matthews was elected as member of the Board of Censors for a three-year term.

Delegates elected to represent the society at the state meeting at Parkersburg next June were Dr.

C. G. Willis, Dr. F. A. Scott, Dr. F. C. Hodges, and Dr. Wes C. Thomas. Alternates were Dr. J. H. Steenbergen, Dr. C. B. Wright, Dr. Edward Hubbard, and Dr. Boyd Brown.

W. W. STRANGE, Secretary.

KANAWHA MEDICAL SOCIETY

A joint meeting of the Kanawha Medical Society and the Kanawha Dental Society was held at the Daniel Boone Hotel, Charleston, on the evening of January 5, with approximately 75 doctors and dentists in attendance. An excellent dinner was served prior to the presentation of the scientific program.

The new officers of the Kanawha Medical Society were inducted into office at this meeting when the president's gavel was turned over to Dr. W. P. Black by Dr. M. I. Mendeloff, who served during 1931. Short talks were made by Dr. Mendeloff, Dr. Black, Dr. B. S. Preston, Vice-President, and Dr. M. F. Petersen, Secretary-Treasurer.

The scientific program was presented by three members of each of the two societies. The dentists who presented papers were Dr. P. J. McGucken on "The Dentists' Attitude Toward a Child"; Dr. C. R. Adams on "Foci Infection as a Dentist Sees It"; and Dr. Norman H. Baker on "Dentistry from the Mechanical Standpoint."

The medical papers were presented by Dr. M. F. Petersen on "Nutrition of the Growing Tooth"; Dr. M. I. Mendeloff on "Relation Between the Physician and the Dentist"; and Dr. E. L. Lanman on "The Rôle of the Röntgenologist in the Search for Foci of Infection."

The dental program was in charge of Dr. L. S. Montague and the medical program was in charge of Dr. E. B. Henson.

M. F. PETERSEN, Secretary.

GREENBRIER VALLEY

The annual election of officers of the Greenbrier Valley Medical Society was held at the Greenbrier Valley Hospital, Ronceverte, on the evening of January 8, 1932. Dr. H. C. Solter, Marlinton, was elected president to succeed Dr. H. L. Goodman, Ronceverte; Dr. W. E. Myles, White Sulphur Springs, was re-elected vice-president, and Dr. N. R. Price, Marlinton, was elected secretary-treasurer to succeed Dr. A. D. Ferrell, Ronceverte.

Dr. Harry Beard, Lewisburg, Dr. H. L. Goodman and Dr. J. E. Hamner, Rainelle, were elected to the Board of Censors for one, two and three years, respectively. Dr. T. L. Gilchrist, Pickaway, was elected as delegate to the state meeting at Parkersburg, with Dr. J. G. Leech, Quinwood, as alternate.

A. D. FERRELL, Secretary.

FAYETTE COUNTY

The first 1932 meeting of the Fayette County Medical Society was held at the Hotel Hill, Oak Hill, on the evening of January 12. Dr. C. W. Stallard, Montgomery, read an interesting paper on "Purulent Arthritis," with a report of six cases. This paper was discussed by Dr. J. E. Coleman, Fayetteville, Dr. E. E. Jones, Mount Hope, and others.

Dr. J. M. Spinks, Mount Hope, read a paper on "Treatment of Incomplete Abortion." This paper invoked a general discussion of this condition.

Dr. Claud Frazier, Montgomery, reunited with the society. After the scientific program a buffet lunch was served.

The next monthly meeting will be held at Oak Hill on February 9. Papers will be presented at this meeting by Dr. W. W. Koiner, Beckley and Mount Hope, and by Dr. Gilbert Daniel of Beards Fork.

WILLIAM PRICE BITTINGER, Secretary.

BOTTLED PSYCHOTHERAPY

The odor and taste of thymol with a little of this and that. The formula given on the carton, "Thyme, eucalyptus, baptesia, gaultheria and mentha, of each one part, boric and benzoic acids, twenty-nine parts, ethyl alcohol, two hundred and fifty parts, water to make one thousand parts. Lambert Pharmacal Company," is merely "a formula." The A.M.A. Laboratory found that the following gives a solution practically identical (chemically and bacteriologically) with Listerine: Boric acid 23.4 Gm., benzoic acid 0.4 Gm., alcohol (94%) 280.0 c.c., menthol 0.375 Gm., thymol 0.75 Gm., eucalyptol 0.8 c.c., methyn salicylate 0.1 c.c., baptesia (wind indigo) fluidextract N. F. 10.0 c.c., water to make 1000.0 c.c. What progressive physician would attempt to write such a polypharmaceutical prescription!—*Journal A.M.A.*, November 14, 1931, p. 1466.

PUBLIC HEALTH

1931 MORBIDITY REPORT

Members of the medical profession will, no doubt, be interested in the 1931 morbidity report of West Virginia, which has just been compiled by the Bureau of Vital Statistics of the State Health Department. This report is made up from the reports of all counties in the state and covers the period from January 1, 1931, to December 31, 1931. The diseases and the number of cases are given as follows:

Chicken Pox	2277
Diphtheria	1281
German Measles	632
Hookworm	38
Hydrophobia	4
Influenza	2393
Measles	4371
Meningitis	44
Poliomyelitis	80
Scarlet Fever	1812
Smallpox	242
Trachoma	5
Tuberculosis	614
Tularemia	3
Typhoid Fever	1203
Whooping Cough	2552

NATIONAL HEALTH CONDITIONS

In a report recently made to Congress, Surgeon General H. S. Cumming states that reports of the prevalance of communicable diseases received by the Public Health Service from state health officers and preliminary reports of deaths from several sources indicate that the health record for the United States for the calendar year 1930 was exceptionally good. The record for the first half of the year 1931 was also generally good although an epidemic of mild influenza during the early months of 1931 increased the death rates for a time and gave the year an inauspicious beginning.

The geographic distribution of smallpox in the United States is very irregular. Seven states—Kansas, Delaware, District of Columbia, Maine, Maryland, New Hampshire, and Rhode Island—reported no cases of smallpox in 1930. The greatest prevalence of smallpox in that year was in South Dakota with 259 cases per 100,000 population. Indiana reported 164 cases of smallpox per 100,000 population, and the state of Washington 152 cases per 100,000 population.

During the calendar year 1930 the incidence of influenza in the United States was unusually low. The death rate from influenza for the year 1930 was 18.7 per 100,000 population as compared with 54.6 per 100,000 population in 1929 and 42.1 in 1928. The fact that there was no general outbreak of influenza during 1930 probably helped greatly in keeping the general death rate for the year low, as there is usually an increase in the number of deaths attributed to certain other diseases when influenza is prevalent.

Infantile paralysis was more prevalent during the calendar year 1930 than it was in 1928 or 1929. In the spring of 1930 the reports showed increased incidence of infantile paralysis on the Pacific Coast, and later considerable numbers of cases of the disease were reported in other parts of the country, especially in Louisiana, Oklahoma, and some of the North Central States. In the country as a whole, infantile paralysis reached its peak for the year about the first of October. An outbreak began in New York City soon after the close of the fiscal year. This outbreak later reached considerable proportions, the number of cases being considerably in excess of those reported for the preceding year.

The tuberculosis death rate for the calendar year 1930 was the lowest ever recorded by the Public Health Service. It was 68.5 deaths per 100,000 population as compared with 73.1 in 1929 and 76.4 in 1928. In 1900 the Bureau of the Census recorded a death rate from tuberculosis of 201.9 per 100,000 population. The difference between the tuberculosis death rates of 1900 and 1930 represents a saving of more than 160,000 lives in 1930 which would have been lost from tuberculosis in the United States if the 1900 rate had prevailed that year.

The prevalence of typhoid fever has been decreasing in the United States since comparable yearly statistics of cases and deaths have been available. During the calendar year 1930 a slight reaction was shown by the reports. The increase was reported during the last six months of 1930 and in some states at least it may have been influenced by the drought conditions which resulted in pollution of

water supplies or necessitated the taking of drinking water from new or unknown sources. The typhoid fever rates as computed from reports to the Public Health Service were as follows: 1930, 22 cases per 100,000 population; 1929, 19 cases; and in 1928, 22.7 cases.

The case and death rates for diphtheria in 1930 were the lowest which the Public Health Service has ever recorded—54.2 cases and 4.9 deaths per 100,000 population. Ten years ago, 1920, the diphtheria case rate was 155 per 100,000 and the death rate was 15.3 per 100,000.

From 1924 to 1928, there was an increase in the prevalence of pellagra in the United States. In 1929 the reported incidence of the disease decreased somewhat, and there was a further decrease during the year 1930. During the first six months of 1931, however, 16,385 cases of pellagra were reported to the Public Health Service as compared with 13,359 cases reported during the first six months of the preceding year.

More than 1,450 cases of undulant fever were reported to the Public Health Service for the calendar year 1930. The disease has been recognized in every state of the Union.

Rocky Mountain spotted fever is not reportable in many of the states east of the Rock Mountains. In 1930, 167 cases were reported from California, Colorado, Idaho, Montana, Nevada, Oregon, Washington, and Wyoming. During the year workers of the Public Health Service identified, by laboratory and clinical studies, Rocky Mountain spotted fever, eastern type, in several states along the Atlantic seaboard. There is evidence to indicate its existence in this area at least since 1909. In 1931 cases were reported in the District of Columbia and Maryland.

THE HUMAN VOICE

"The Human Voice, Its Care and Development," by Dr. Leon Felderman.—This book is an attempt by a prominent nose and throat man to explain the anatomy, physiology and pathology of the nose and throat for those who use the voice extensively, such as singers and orators. The author does not promise to show the road to Parnassus in either of those two fields, but by explaining in a popular text the ailments that interfere with good voice production hopes that these will more easily be avoided.

The larynx itself is the smallest part of the mechanism of voice production which takes in the lungs, chest wall, diaphragm, large muscles of the neck, even includes the abdominal muscles. Having brought all these under perfect control, the prime requisite of a perfect voice is a perfect anatomical larynx and pharynx, correct architecture of the palate and uvula, correct size and mobility of the tongue. One begins to wonder at the countless details that go to make up the voice.

This is essentially a popular book on the voice for singers and orators, the fundamental principles of voice production are explained and the diseases of the larynx and accessory structures are very clearly defined. RAYMOND LUBKIN.

GOITER RESEARCH AWARD

The American Association for the Study of Goiter again announces its three-hundred-dollar award for the best essay based upon original research work on any phase of goiter, presented at their annual meeting in Hamilton, Ontario, on June 14-16, 1932. The award is made annually in an effort to stimulate valuable research work, especially in regard to the basic cause of goiter.

Competing manuscrips must be in English and in the hands of the Secretary, Dr. J. R. Yung, Rose Dispensary Building, Terre Haute, Indiana, not later than March 15, 1932.

DR. JOHN F. MAY

Information has just come of the death of Dr. John Franklin May, of Rossmore, Logan County, a few months ago. Dr. May was a native of Kentucky and had practiced medicine in Logan County for many years. He died at Ashland, Kentucky, of a heart affection from which he had suffered for some years and which had incapacitated him for a few months before his death.

He was born in 1869, was graduated from the Kentucky University Medical Department, Louisville, 1905. He was buried at Ashland, Kentucky. Dr. May is survived by his widow.

CORRECTION

The official directory of members of the West Virginia State Medical Association was published in the January issue of the JOURNAL. Through error, the names of Dr. J. C. Jett of Springdale, Fayette County, and Dr. W. C. Kappes of Huntington, Cabell County, were omitted from this directory. Both Dr. Jett and Dr. Kappes have been loyal members of the Association and of their county societies for many years. The JOURNAL herewith expresses its sincere regret that their names were accidentally left off the list.

GENERAL NEWS

1932 EARLY DIAGNOSIS CAMPAIGN

The fifth annual Early Diagnosis Campaign of the National Tuberculosis Association will be started on April 1. The program is centered around the theme that "Tuberculosis Causes Tuberculosis." An effort will be made to stimulate interest in finding the unknown and the unreported cases of tuberculosis. This will enlist the participation of county tuberculosis associations, physicians, health officers, public health nurses, social workers and community leaders throughout the United States.

In this state the campaign will be directed by the West Virginia Tuberculosis and Health Association. George C. Rowell, the executive secretary, was a member of the National Committee in charge of planning for the 1932 and the previous campaigns. He returned recently from New York City where he attended a case-finding institute conducted for the state and city secretaries of the Middle Atlantic states. A similar institute is being proposed for West Virginia early in March. Arrangements are being made for a nation-wide radio broadcast on March 31 announcing the opening of the campaign.

One of the features of the campaign in West Virginia will be a schedule of state-wide clinics which will be made possible in connection with an appropriation made available by the last legislature. The clinic staff now includes G. H. Barksdale and R. D. Roller, Charleston; W. E. Vest, Huntington; E. T. Goff, Parkersburg; G. R. Maxwell, Morgantown; O. F. Covert, Moundsville; Andrew Wilson, Wheeling; V. L. Glover and G. P. Morison, Martinsburg; G. F. Grisinger and W. L. Cooke, Beckley; G. F. Evans and staff, Hopemont; B. A. Crichlow, Denmar, and W. B. Johnson, Cumberland, Md. It is expected that other physicians will consent to serve. It is hoped that a system of regular clinic service for each county will be developed during the year as a result of this campaign.

In tracing tuberculosis to its source "the family doctor holds the key to the solution of the tuberculosis problem," is the statement made in a pamphlet for physicians issued as a part of the literature prepared for the campaign. Failure of physicians to report "carriers" or spreaders of tuberculosis and to examine carefully every exposed person in the household is regarded by the author as the chief defects in controlling the disease.

Other educational material to be used includes a pamphlet for the health officer describing in detail the technique of finding cases, a pamphlet for the public health nurse who has unique opportunities for closely observing families and helping to get examined all persons living in close contact with tuberculosis, a pamphlet for the social worker explaining how tuberculosis is communicated and just why every case must be traced to its source, a circular for distribution to the general public describing in a popular way why it is important to find the other case.

Additional supplies for the campaign are outlines for brief talks at clubs, schools, churches, and over the radio; a motion picture with sound effects, a strip film and lantern slides; billboard and other posters; special feature articles and illustrations for magazines and house organs, and plate matter for weekly newspapers.

As the discovery of the tubercle bacillus in 1882 by Koch was the dawn of a new day in tuberculosis control it is proposed by the National Tuberculosis Association that medical societies honor the fiftieth anniversary of the discovery by special programs in March or April. Literature suitable for presentation can be obtained from the West Virginia Tuberculosis and Health Association in Charleston.

THE GENESIS OF SOCIAL INSURANCE

(EDITOR'S NOTE—The following two articles by Dr. Edward H. Ochsner, Cleveland, are the first and second of a series of six on the subject of social insurance. The remaining four articles will be submitted monthly. Dr. Ochsner feels that compulsory health insurance is one of the biggest quasi-medical problems before the profession today and his series of articles deals with the problem from its political and economic effects upon society in general.)

Social insurance is the hybrid offspring of impracticable sentimentalism and political expediency. It is an epidemic disease first observed in Germany about fifty years ago which has gradually spread and infected a considerable number of the nations of the earth and now has arrived at our very doors. Unless we succeed in establishing a rigorous quarantine of enlightened public opinion, it will surely gain a foothold in this country in the not distant future.

Social insurance consists of the following subdivisions or parts: Compulsory health insurance, old age pensions, widows' and orphans' pensions, and unemployment pensions or doles. In none of the countries were they all adopted at the same time. Germany adopted compulsory health insurance in

1883, and all of the other forms since that time. Austria adopted compulsory health insurance in 1888; Hungary, in 1891. England adopted old age pensions first and compulsory health insurance in 1911, and the others subsequently. In this country some of the states have adopted old age pensions and some widows' and orphans' pensions, but so far none have adopted compulsory health insurance, for which negative blessing let us raise our voices in thanksgiving.

When the scientific physician is confronted with the problems presented by a new patient, he meets the situation in the following manner: he obtains a complete family personal history in order to ascertain if possible the causes which have brought about the condition; by his physical examination and laboratory investigations he finds out what variations from the normal have taken place; after all this he is in a position to advise and institute the proper treatment. Let us follow the same course in the study of this problem.

During the late seventies a number of German parlor socialists conceived the idea that the state make itself responsible for the medical care of its workers. The sentiment in favor of compulsory health insurance grew rapidly among the workers, and Bismarck, although expressing serious doubts as to the soundness of such a measure, yet feeling that something had to be done in order to appease the clamor of the proletaria and the alarming growth of socialism, adopted social insurance as a government measure, had a bill drafted and enacted into law.

In England, national insurance, as it is called there, had a slightly different setting but substantially the same background. In 1910, David Lloyd George in order to strengthen himself politically decided the time for such legislation was opportune. Not being able to speak German, he gathered about himself several interpretors, hied himself to Germany and after interviewing the well paid heads of the German system, and after having been wined and dined and lionized for two weeks or so, he returned to England very enthusiastic about the whole project, had a law drafted, and later secured its passage. In the recent parliamentary election the Liberty party, of which Lloyd George has been the head for many years, elected just four members to Parliament or less than one per cent of the whole number. So while Lloyd George may have saved his political skin by national insurance in 1911, he certainly lost his hide by it in 1931.

Practically every reform movement attracts to itself a considerable number of well meaning, emotionally impressionable, impractical, irresponsible, very vociferous individuals, and very often a group, usually the very ones who manage the propaganda and who hope to gain some pecuniary benefit from it. Social insurance is no exception to this general rule.

Some of the common characteristics of reformers is that they want a new law passed for every human ill, and when the law is enacted, they either sit back waiting for the millenium to arrive or they rush off looking for new evils to correct by new laws forgetting to see to it that the law just passed is being properly enforced, and forgetting at all times that all laws must depend for their enforcement not upon supermen but upon men often of less than average intelligence and integrity, upon politicians and their henchmen, who are quick to see how these usually unsound and loosely drawn laws can be converted to their own advantage.

(The above is what is actually happening in some of the countries where such laws are in operation as future installments will show.)

All forms of social insurance are contrary to the spirit of democratic government. They destroy individual incentive, initiative and self-reliance. They substitute paternalistic control for independence of thought and action. We pride and congratulate ourselves on living under a democratic form of government but most of us fail to realize that we are slowly but surely drifting away from the true democratic spirit in government—that we are gradually substituting a hybrid form of government, a cross between bureaucracy and socialism. Personally, I am a firm believer in democracy and believe that many of our present ills are the direct result of already having deviated too far from the fundamental principles of democracy.

Individual responsibility is the foundation of democratic government. If a nation does not educate its citizens to individual responsibility, it will soon have no one capable of assuming public responsibility. Slowly through the ages the common man has risen from chattel slavery and serfdom to independence, freedom and personal liberty, and now some well-meaning but misguided people want to undo all this. They want to enslave him again, making him in fact a bondsman of the state. Organized society is forever forging new chains with which to shackle the free development of its mem-

bers. It is forever meddling with the private affairs of its citizens. One of the best illustrations of this statement is found in a recent survey of the Citizens' Bureau of Milwaukee which found that that city is engaged in approximately three hundred different functions, one-fifth of which have been added during the last sixteen years. Milwaukee is no worse in this respect than many other cities in this country. Add to this the activities of the county, state, and federal governments, and we find an explanation of the following fact: "In a period in which the population of the United States has increased ten per cent the number of persons holding civil office has increased forty per cent and the amount paid in salaries has increased one hundred and fifty per cent." Thirty years ago one person in every forty-five was in government employ while now one in every twelve is so employed.

"It is a profound mystery why the people of the present generation should so violently run after the very things their forefathers so violently ran away from in 1776. One of the chief indictments of King George set forth in the Declaration of Independence reads: 'He has erected a multitude of new offices and sent hither swarms of officers to harass our people and eat out their substance'."

In a recent article, Dr. Harry Emerson Fosdick makes a statement that seems particularly suitable in this connection. He said, "Many of those in society who are dissatisfied with present conditions know what they want to get away from, but they do not know whither they are going." I would add "nor do they seem to have any clear idea as to what they want." Before we adopt new laws we should make reasonably sure that such laws will not introduce new and greater evils than they are expected to cure, that they can actually be enforced, and that they are not likely to be abused in their administration.

A far reaching innovation such as social insurance must be viewed from many angles. We must consider its effect upon the general public, the insured, the employer, and the medical and dental professions.

If we are deliberately trying to get away from the democratic form of government having a definite object in view; and if we are reasonably certain that the goal for which we are headed is worth while and is going to result in general social and economic betterment, an experiment with social insurance might be justified, but, even then, it is well to carefully weigh and consider what the wise founders of our government had to say on this important subject. I quote from the Declaration of Independence, "Prudence, indeed, would dictate that government long established should not be changed for light and transient reasons." If we are a nation just aimlessly drifting, as we seem to be, we are almost sure to get into serious trouble. We believe that we shall be able to show conclusively, in future articles, that in those countries in which it has had prolonged and extensive trial it actually has had serious consequences. These latter problems will be taken up in subsequent articles.

CONFERENCE OF SECRETARIES

The annual conference of county society secretaries of the West Virginia State Medical Association was held at the Association headquarters in Charleston on January 18, 1932. This was one of the most interesting and educational conferences the secretaries have ever held and there was an excellent attendance.

The conference was called to order by Mr. Joe W. Savage, state secretary, and Dr. H. A. Barbee, secretary of the Mason County Medical Society, was elected permanent chairman.

Morning papers were presented by Dr. G. R. Maxwell, secretary of the Monongalia County Medical Society, on "The Secretary," and by Dr. M. F. Petersen, secretary of the Kanawha Medical Society, on "Looking Forward to the Job." Both of these papers brought out a great amount of discussion.

Following a luncheon at the Kanawha Hotel, the conference reconvened at 1:30 o'clock, p. m. Afternoon papers were presented by Dr. Joseph A. Striebich, secretary of the Marshall County Medical Society, on "The Smaller County Society," and by Dr. Albert H. Hoge, president of the West Virginia State Medical Association, on "Our State Institutions." Discussion on these two papers occupied the remaining time of the conference.

DECEMBER COUNCIL MEETING

(EDITOR'S NOTE—The following is an abstract of the minutes of the council meeting held on December 29, 1931. The report of the executive-secretary, treasurer, and district councillors will follow this article.)

The annual year-end council meeting of the West Virginia State Medical Association was held in Charleston on December 29, 1931, with almost a full attendace. Dr. W. E. Vest, chairman, presided. Reports were heard from the secretary,

treasurer and from each of the six councillor districts.

Those elected to honorary membership at this meeting were Dr. S. S. Wade, Morgantown; Dr. U. G. Cook, Beckley and Dr. B. W. Bird, Princeton.

Dr. Chester R. Ogden, Clarksburg, was elected as a member of the Journal publication committee to fill out the unexpired term of Dr. Harry M. Hall, deceased.

The council went on record as favoring the application of Dr. Claude Rucker, present head of the Veterans Bureau, Charleston, for the position as chief of the new Veterans' hospital now under construction in Huntington. Dr. Rucker has made application for the position and the recommendation of the council was requested from various sources.

The council went on record as favoring the employment of local shorthand reporters to cover the sectional meetings at the annual Association conventions. This recommendation was passed on to the executive secretary.

A suggestion from the American Medical Association was presented to the council asking that steps be taken to promote the inauguration of a criminologic institute in West Virginia, in order to utilize the science of medicine in the detection of crime. This matter was referred to Dr. J. N. Simpson, dean of the school of medicine at West Virginia University.

The council adopted a resolution directed to the Surgeon General of the U. S. army asking that doctors in the U. S. army reserve be excused from the regular periods of training necessary to hold their respective commissions in the reserve corps.

The council adopted a budget for the operation of the office of the executive secretary and for carrying on the activities of the Association in 1932. The total budget, as adopted, called for an expenditure not to exceed $8,000 for the coming year.

The council, after considerable study, ordered that the annual premium on the H. G. Nicholson insurance policy be carried by the indigent fund as an investment for that fund.

The council was unanimously in favor of putting forth Dr. James R. Bloss, Huntington, as a candidate for the board of trustees of the American Medical Association and a resolution to that effect was adopted. The election will be held at the annual American Medical Association meeting in New Orleans next May.

After a four hour session, the council adjourned at 3:30 o'clock in the afternoon to meet next at Parkersburg on the afternoon of June 20, 1932.

EXECUTIVE SECRETARY'S REPORT *

The successful legislative session of 1931 was reported in full at the Clarksburg meeting last May. At that time we also covered the various activities of the Association for the first four months of 1931. Consequently this report, which we shall attempt to make brief, will only deal with the work of this office from May 1, 1931, up to the present time.

The ordinary affairs of the Association have been carried on in the usual way. There are many things that we would have embodied in our reports of a few years ago, that now seem too routine to mention. For example we have made about 20 society visits during the year, we have found jobs for a dozen or more unemployed doctors, we have furnished many assistants to members of the Association, we have filled approximately 25 calls for relief men, and we have aided in the prosecution of numerous quacks and charlatans. All such things, and many more, naturally take up a considerable portion of our time. They occur so often that we now consider them as routine, rather than unusual.

The chief matters of interest, we feel sure, concern our membership and the Journal. This has been a lean year and we believe most of you anticipate a decrease in the financial status of the Association. By the first of last April it became apparent that our membership would probably fall short in 1931 and, as a direct result, our income also. In order to keep from falling too far below our record of 1930, we began to retrench and under the guiding hand of Dr. Maxwell we succeeded in reducing expenses $649.64 under the previous year.

In 1930 we collected, in dues, $10,704.50. We spent $8,728.71 for a net earning of $1,975.79. This past year our income was only $377 under 1930. Therefore our annual earning for 1931 has been greater than it was in 1930. This year we collected, in dues, $10,327.50 and expended $8,080.07 for a net profit of $2,247.43. Our net earning for 1931, therefore, is $271.14 higher than last year.

* Presented before the council of the West Virginia State Medical Association on December 29, 1931.

So much for the Association finances. As to actual membership, we are 48 under last year. At the close of 1930 we had 1,116 members in good standing and we now have 1,068. In 1930 we had 48 delinquents and we now have 106. This is an increase of 57 delinquent members over the past year. When the economic conditions are considered, we don't feel that this is a particularly bad record. Our delinquency is approximately 10 per cent and we believe that is a much lower figure than you will find in almost any other state.

It is safe to assume that many of the delinquent members will pay up during this last week of the year, and a few others will come in during the first month of 1932. If we get in one-half of the delinquents, which is a rather high estimate, we will then be ahead of 1930. We will not go into a detailed report on membership because the membership of each society and each district will be given later by the district councillors.

The West Virginia Medical Journal has not only ridden through the economic storm with flying colors, but has had the best year in its history. Heretofore, the Journal's largest profit in a single year was $1,369.40 which was put aside in 1930. This past year we boosted this more than $600 and we now have a clear profit of $1,999.35 for 1931, with all bills paid. This profit was made entirely on advertising, as the Journal does not receive any income from circulation. Our ambition this year was to show a profit of $2,000, and we fell short of this mark by only 65 cents.

Adding the 1931 profit to the cash assets of the Journal, we now have a total of $6,561.66 with no outstanding obligations. This is made up as follows:

U. S. treasury bonds	$5,700.00
Accrued interest	52.00
Fidelity bond	360.00
Emblem fund	12.00
Checking account	351.61
Cash on hand	86.05
Total	$6,561.66

Four and one-half years ago, when we came with the Association, the Journal was in debt. The above amount, therefore, represents a profit of more than $1,200 a year for the 4½ year period.

Only one major improvement was made in the Journal in 1931. That was the change to all enamel paper, which increased the cost of publication about $200 for the year. This change has done much to improve the looks and makeup of the Journal and has won us many friends. We now have one of the very few state journals in the country printed entirely on enamel paper.

The publication committee has ordered a change in the cover for 1932; the only change that will be made. The new cover will be lighter in shade and will be a better grade of cover paper.

We feel that our Journal is attracting more attention every year. While we are no proper judge of its scientific merit, yet we can tell from the increased demand for reprints and individual copies that it is widely read. During the past 12 months many of our advertisers have increased their space with us, so apparently our members are supporting the Journal advertisers. Our editorials are frequently quoted in other publications and one of the leading editorials in the November Federated Bulletin of the American Medical Association was one that had been taken from the West Virginia Medical Journal. It seems to us the Journal has a bright future ahead. Certainly its record for 1931 can be pointed to with pride.

There are two recommendations we would like to make for the coming year. We have recently made a study of the expenditures of the Association for the past four years and have worked out what we feel is an accurate estimate of our annual needs. This budget calls for a possible annual expenditure of $8,000, but no more. If adopted, it will not mean that the Association will spend $8,000 in 1932, but it will mean that the Association can't spend more than that figure. This budget will not alter any of the established customs of handling our finances or of making expenditures. All expenditures will be approved in the usual way and through the same channels.

Our other recommendation concerns the method of paying the Nicholson insurance premium. This association is financially sound, but sometimes it does not appear sound because the Nicholson premium eats too heavily into the general fund. The annual income of the Association's general fund averages a little better than $8,000 each year. The expenditures from the general fund amount to just about the same. Now, when the Nicholson premium of about $1,300 is also paid from the general fund, the general fund runs short and Dr. Barber is forced to borrow from either the indigent or defense fund in order to finish out the year. When this shows up in his report there is a fairly

general opinion that the Association is losing ground. As a matter of fact, the Association operates nicely within its income and sets aside about $1,000 a year in addition to the Nicholson investment. What is wrong?

Nothing is wrong, except the method of making our expenditures. This could all be easily straightened out by paying the Nicholson premium out of the indigent fund. The general fund would then take care of itself and, in a few years, the era of borrowing would be over. It would be over because the general fund would have paid back the money it has borrowed over a period of five years.

The question might be raised that the indigent fund should not be used for this purpose. I think we all consider the Nicholson insurance policy as an investment. If it isn't a good investment it should not be carried. If it is a good investment, it is just as good an investment for the indigent fund as it is for the general fund. As long as we are going to carry the Nicholson investment, why not combine the two and relieve a cumbersome and misunderstood method of finance.

If this is done, it should be understood through the minutes of this meeting that the money would be paid back when it became available. The indigent fund, as it stands today, could carry the Nicholson policy for as long as 25 years without difficulty. We hope this new plan for carrying the Nicholson policy will be adopted.

In closing, we wish to express our sincere and heartfelt thanks to Dr. Maxwell and to the members of the council and the Association for a pleasant and happy year. To us, 1931 has been one of our happiest years with the Association. It has been a year beset by many difficulties and forebodings. It has taxed the strength of the Association as no other year has done. It has provided a treacherous battleground on which to stage our many activities. Yet we have come through unscathed, stronger than before, and we have more to show for the past 12 months of depression than we have ever had in the best years of prosperity. We can look back on 1931 and forget the existence of the much-talked-of economic crisis.

Respectfully submitted,

JOE W. SAVAGE,
Executive-Secretary.

THE NEW BUDGET

For the benefit of those members of the Association who are interested (as all members should be) in the cost of operating the West Virginia State Medical Association, the Journal publishes below the new budget for 1932 which was adopted by the Council on December 29, 1931. Most of the items are self explanatory. It might be pointed out that the item of salaries includes the salary of the executive secretary, the stenographer, the treasurer, and also provides for additional stenographic help if needed. The item for legal services is the amount of the annual retainer paid to the Association attorney. The item for traveling expense covers such expenditures of councillors and officials who make trips on official business for the Association.

The complete budget as adopted on December 29 follows:

Salaries	$5,400.00
Library	150.00
Rent	480.00
Telephone-Telegraph	170.00
Postage	250.00
Traveling Expense	300.00
Convention Expense	400.00
Legal	100.00
Office Supplies	200.00
Office Maintenance	150.00
Stationery	150.00
Miscellaneous	250.00
Total	$8,000.00

REPORT OF TREASURER *

GENERAL FUNDS

1931	*Receipts*		
May 3	Balance	$2,944.14	
	Chas. Nat. 217.05		
	Kan. Vall. 111.93		
	Cap. City 2,615.16		
June 3	Joe Savage, dues	1,075.00	
Sept. 10	Medical Defense Fund Loan	2,000.00	
Oct. 12	Joe Savage, dues	521.00	
Aug. 10	Joe Savage, refund on embl.	180.00	
July 1	Int. on savings a/c	1.66	
			$6,721.80
	Expenditures		
June 11	Joe Savage, May exp.	$ 750.68	
June 30	Geo. Washington Life Ins. (Nicholson's Insurance)	1,301.00	

* Presented before the council of the West Virginia State Medical Association on December 29, 1931.

July 9	Joe Savage, Jun. exp.	790.43	
July 12	Medical Defense, a/c May 2	109.00	
July 12	Indigent Fund, a/c May 2	111.00	
July 12	Medical Defense Fund, June 3	102.00	
July 12	Indigent Fund, June 3	107.00	
Aug. 10	Joe Savage a/c July exp.	711.29	
Sept. 10	Joe Savage, Aug. exp.	567.30	
Oct. 8	Joe Savage, Sept. exp.	585.57	
Oct. 14	Indigent Fund	52.50	
Oct. 14	Medical Defense Fund	48.50	
Nov. 3	Joe Savage, Oct. exp.	573.50	
Dec. 5	Joe Savage, Nov. exp.	518.93	
Dec. 28	Balance in bank	393.93	
	Kan Vall. 113.59		
	Cap. City 280.34		$6,721.80

INDIGENT FUND

Receipts

May 5	Balance in bank	$3,516.23	
	Federal Land Bonds	1,525.00	
May	Coupons on bonds	37.50	
July 12	a/c May 2	111.00	
July 12	a/c June 3	107.00	
Oct. 14	a/c	52.50	
Dec. 23	Coupons	97.50	
July 1	Interest on bank bal.	21.22	$5,467.95

Expenditures

	Bonds previously invested	$1,525.00	
July 17	Federal Land Bank bonds	2,590.33	
Dec. 28	Cash in bank	1,352.62	
			$5,467.95

MEDICAL DEFENSE FUNDS

Receipts

1931			
May 1	Balance	$3,052.15	
July 1	Interest	39.70	
July 15	a/c May 2	109.00	
July 15	a/c June 2	102.00	
Oct. 14	a/c	48.50	$3,351.35

Expenditures

Sept. 10	Lent to Gen. Funds	$2,000.00	
Dec. 28	Bal. in bank	1,351.35	$3,351.35

T. M. BARBER, M. D., *Treas.*

DISTRICT MEMBERSHIP REPORT

FIRST DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Brooke	15	11	0	1
Hancock	18	17	0	3
Marion	55	52	10	5
Marshall	29	23	2	7
Ohio	105	104	1	1
Taylor	8	9	0	1
Tyler-Wetzel	16	16	0	3
	246	232	13	21

SECOND DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
B. R. T.	32	27	2	3
Eastern Panhandle	25	25	1	1
G. H. H. M.	31	31	0	1
Monongalia	51	47	0	3
Preston	19	18	2	2
	158	148	5	10

THIRD DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Doddridge	4	3	0	1
Harrison	75	77	2	4
Lewis	18	20	0	0
Central W. Va.	27	20	4	6
	124	120	6	11

FOURTH DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Cabell	82	80	1	6
Mason	6	5	1	2
Parkersburg Acad. of Medicine	58	54	2	3
	146	139	4	11

FIFTH DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Logan	34	31	2	6
Mercer	58	46	0	8
McDowell	51	48	3	4
Mingo	20	19	2	4
Summers	12	12	0	1
	175	156	7	19

SIXTH DISTRICT

Society	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Fayette	57	44	1	12
Greenbrier	30	26	2	6
Kanawha	132	127	10	14
Raleigh	48	46	1	3
	267	243	14	35

ARE DOCTORS NECESSARY?

Could you dispense with a doctor at all times? Could you get along without him except when the situation was a matter of life and death? Dr. Wingate M. Johnson raises the question, "Are Doctors Necessary?" since only one life out of ten is actually saved by a doctor's efforts. Consider some of the reasons the author lists in *Hygeia* for a doctor's existence.

In the first place, one chance out of ten is rather a big reason for a doctor's care; at least it is for one who enjoys life. But other obvious reasons present themselves.

"Any man who has writhed in the agony of kidney or gallstone colic and experienced the blessed relief that follows a hypodermic injection can understand why Sir William Osler often referred to morphine as 'God's own medicine.' Even the lesser

pain of migraine, acute arthritis or a bone felon, while in no wise fatal, will cause the sufferer to bless the one who brings him relief," the author adds.

What woman would care to dispense with the services of a trained medical man before, during and just after childbirth?

Few men ever die of a broken bone, yet few would care to go through life with the crooked arm or leg that an unskilfully treated fracture would leave.

Not only in rendering services in the home and the hospital has the medical profession been a great factor in lengthening the life of man, but in scientific laboratories men have strived to exterminate the menace of infectious diseases. In fact, these two forces have been so successful that plagues and severe epidemics are scarcely heard of and infectious diseases have become secondary to constitutional diseases in taking human life.

HOSPITAL CONFERENCE

The annual congress on Medical Education, Medical Licensure and Hospitals held under the auspices of the American Medical Association is to take place in the Palmer House, Chicago, on February 15-16, 1932. The program for this important gathering has just been mailed out and an excellent session is anticipated.

Among the well known speakers who will appear on the program for the congress will be Dr. Bert W. Caldwell, Dr. Ray Lyman Wilbur, Dr. William Gerry Morgan, Dr. Hugh Cabot, Dr. Dean Lewis, Dr. H. H. Shoulders, and Mr. Paul H. Fesler, president of the American Hospital Association.

The March issue of THE WEST VIRGINIA MEDICAL JOURNAL will carry a report on the annual congress, which will be prepared by Dr. W. E. Vest, Huntington. Dr. Vest will attend the congress as president of the Hospital Association of West Virginia.

SENILE DEMENTIA

Senile dementia, the decay of the tissues of the brain, sometimes occurs with old age. It is not capable of cure. Malaria is being used extensively with striking success in the treatment of disease of the brain resulting from syphilis. Malaria will not cure senile dementia, *Hygeia* maintains.

WOMAN'S AUXILIARY

MESSAGE FROM MRS. McGLOTHLAN

In place of the usual news items from the National Auxiliary, the committee on publicity has sent out a message from Mrs. Arthur B. McGlothlan, president, to all auxiliary members. Extracts from this message, which will be interesting to all county auxiliaries in West Virginia are given below:

"It seems to me that each county administration should feel that it had failed somehow in its duty if it did not make a sincere and persistent and tactful effort to hold in membership at least all those committed into its care by the former administration and unless its membership is already one hundred per cent of the wives of doctors belonging to the county medical society, it should attempt to make a definite, even though slight, gain."

"Some of the auxiliaries are attempting nothing more than to bring about unity and solidarity within the profession by means of social contacts between the families of doctors. My observations on my visits to auxiliaries during this year leads me to believe that this function to the auxiliary should not be underestimated. The medical societies are apparently, more and more, recognizing the forces both within and without the profession that are working counter to the best interests of the profession and the public and are feeling the need of a unifying force such as an auxiliary may be when given sufficient encouragement and coöperation and guidance by its medical society."

"The growing interest in the educational and public relations programs of the auxiliaries this year has been most gratifying. That many state medical societies have prepared educational programs for their auxiliaries and have endorsed the National Auxiliary study envelopes for use in developing these programs is satisfying. In an increasing number of county auxiliaries a few women are being discovered who are vitally interested in the educational programs and who are a real force in interpreting the ideals and work of the medical profession to other women's groups in which they work by influencing these groups in the choice of approved literature and speakers to be used on their health programs. One of our goals this year is to discover such women, to urge them to represent our groups in other women's organizations by accepting positions of leadership therein, and to back them up by our loyal support."

MONTHLY MORBIDITY REPORT
BY COUNTIES

DECEMBER 1931	Chickenpox	Diphtheria	Tuberculosis, All Forms	Typhoid Fever	Hookworm Disease	Whooping Cough	Influenza	Measles	Meningitis Cer. Spi.	Ophthalmia Neonatorum	Poliomyelitis	Scarlet Fever	Smallpox
Barbour		7	1	9		2				1			
Berkeley		18	1	1								2	
Boone	1	5	1	2	1			3				2	
Braxton		3										2	
Brooke	5	2				7		1				10	
Cabell	1	4											
Clay				7									
Doddridge		1				2	8	3				2	
Fayette		7		1		4		24				1	
Grant	1	1		2									
Greenbrier	15	2	1			6	2		1				6
Hampshire												1	
Hancock	3	2									1	5	
Hardy		1		3								2	
Harrison	102	5		1		11		976				20	1
Jefferson		3				7						7	
Kanawha	34	23	4	3		12	1	9				21	
Lewis		1						4				1	
Lincoln		1		1			4						
Logan	2	3		27								1	1
Marion	22	1						20				4	
Marshall	13	2	1									7	
Mason		2											
Mercer	11	8										1	
Mineral	6	8	7			5	31	10			1	5	
Mingo	5	9											
Monongalia		12	1	1				12				5	
Monroe						9							
Nicholas		7						20				7	
Ohio	20		6	2		28		2				8	
Pendleton												6	
Pocahontas		1		1								2	
Preston											1	1	
Putnam												1	
Raleigh	6	14	1	5		5		1	1			19	
Randolph			1									8	
Ritchie												5	2
Roane												3	
Summers		3		1								3	
Tucker		1											
Upshur		1							1				
Wayne		4		3		4							
Webster		2										1	
Wetzel		3											
Wirt		3							1				
Wood	8	16										16	
Wyoming		2							1				
Totals	255	188	25	72	1	111	46	1085	5	1	3	179	10

The West Virginia Medical Journal

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JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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CERTAIN ASPECTS OF IMMUNITY, ESPECIALLY AS APPLIED TO TUBERCULOSIS

ORATION ON MEDICINE *

By G. H. BARKSDALE, M.D.

Charleston, W. Va.

IF ONE reflects on the great factors which direct the destinies of man, disease stands in the fore. In so reflecting great epoch-making events pass through one's mind in kaleidoscopic procession. Alexander's hand was staid by disease at thirty-two, with Asia and the world about to fall within his grasp. Devastating pestilences here and there over continental Europe left at times isolated knots of people and in their isolation new concepts of art, religion, language, and what not, arose. The sick mind of the Maid of Orleans heard voices and saw visions which gave her that which saved her beloved France. It was malaria that blotted out the high civilization of Ancient Greece. The Pilgrim Fathers, in a pious fashion, gave thanks to God for his great mercy in having much wasted by a great mortality the savages on the coast of Massachusetts Bay. So great, it is written, that the living were unable to bury the dead. This obviously made Massachusetts a vastly more hospitable, and to say the least, a safer place for those pious souls to sojourn. The Panama Canal might have been built by the French had not disease stopped them. So it follows that any light that may be shed on those great forces which protect us from disease must be of paramount interest to each of us.

This morning I have chosen to speak concerning certain phases of that great protective thing within us which we know as immunity. Immunity especially as it is applied to tuberculosis. This disease not only to stand as a general type in thought, but further, if one keeps this matter of immunity in mind, certain aspects of the infectiousness of this disease, and its polymorphic manifestations become clearer.

Soldiers returning from the Parthian wars brought with them a new disease, the Plague. Ten thousand were said to have died in Rome in one day. It is probable that the Old World never recovered entirely from its ravages. Pest monuments, so commonly seen over there, bear evidence of this terrific scourge. The Black Death, coming from East Asia in mediæval times, took a toll of one-fourth of the population of Europe. Smallpox, in the early days of our colonization, at one time attacked a tribe of twenty-thousand Indians; forty survived. One fine day an English man-of-war landed at the Fiji Islands; sailors aboard were sick with measles and, as a result, one-fourth of the

*The Oration on Medicine presented before the West Virginia State Medical Association at Clarksburg on May 21, 1931.

entire native population contracted the disease and died. The Negro, new to civilization, is four and one-half times more susceptible to tuberculosis than the Russian Jew whose civilization is ancient and whose environment is essentially urban. From these facts and many others, I take my text, which is,—Any disease is more deadly to those to whom the disease is new. The epidemiologist knows it from his statistics. The pathologist and clinician know it because they have noted that the body cells and forces react differently in the immune and the unimmune.

If we review our past experiences, one can not but note how rarely one sees a child die of tuberculosis and especially pulmonary tuberculosis. It certainly is not from the lack of exposure, for it is probably true that half of all of us are intermittently carriers of tubercle bacilli; and yet 88% of infants in the United States between the third and twentieth month show no tuberculosis. It is because they have inherited a certain something. This something is present in all children, it is more potent in breast-fed children; in the children of certain races, (the whites versus negroes,) and those who come of tuberculous stock, and contrary to general opinion one does not inherit a tendency to the disease. On the contrary, should they ultimately break down with tuberculosis, their chances for recovery are two times as good as those of non-tuberculous stock. This something referred to is a variable factor and begins to fade out towards the end of the first year of life and is referred to as a natural or inherent immunity.

If virulent tubercle bacilli, in appropriate doses, are injected subcutaneously in an experimental animal, after a considerable period of time, a local ulcer forms which persists. However, if later the same dose is injected the tissue response is entirely different. An inflammation at the site of injection occurs rapidly and subsides rapidly, and may entirely heal. (Koch's Phenomenon.) Krause and Willis have shown that ten tubercle bacilli will ultimately give a guinea pig generalized tuberculosis; however, a guinea pig which is already tuberculous will for months hold in check ten thousand times this number. Calmette and Guerin have made a vaccine of tremendously attenuated virulence. Their claim, though disputed by others, is that the living bacilli in their vaccine are so enfeebled that they become non-toxic though secrete sufficient tuberculin to produce anti-bodies. Calmette has vaccinated many thousand children, and of this number 982 babies were of tuberculous parents. At the end of one or more years, one per cent of them had died of tuberculosis, while in an unvaccinated control group, thirty to seventy per cent had died. Further, it has been noted clinically that the course of a tuberculous infection will be modified, depending upon whether we are dealing with a primary infection or a re-infection. I have pointed out these facts and principles as examples of so called acquired immunity and I might add that such immunity continues potent so long as we have anatomic tubercle.

So far we have spoken of the host and its protective forces; namely, inherent and acquired immunity. We will now refer to the invading organism as the third leg of this triangle. "It is a known fact that many forms of bacteria increase or decrease in virulence according as to whether they do have or do not have the opportunity to continuously grow in the sick and produce an acute or serious disease." (Park.) The old obstetricians transferred streptococci from one patient to another so rapidly that their virulence was ever at a maximum. Had there been only an occasional infection, and that transferred from a recovered case, the invading organism would have been vastly less virulent. Paratyphoid bacilli transferred from mice to mice while in the incubation period of the disease will finally become so attenuated that the mice receiving the inoculation simply become carriers of the disease and do not become ill. We have all seen old people have repeated attacks of erysipelas until it ultimately became so mild that they scarcely noticed it. Bacillus

diphtheria found in carriers who in turn acquired their infection from carriers are probably avirulent. Typhoid contracted from carriers is much milder than this disease if contracted from one actively ill. It is quite likely though not proven that tubercle bacilli from an old fibroid case are less virulent than those from an acute fulminating case. Undoubtedly the virulence of disease in general goes in waves. Just now scarlet fever and smallpox are relatively mild diseases, but who can say what they may be twenty years from now? Influenza has certainly become less virulent, and, most probably at its worst, it was an awakened ancient foe on a rampage, so it follows that the struggle goes on, the invading organism as the aggressor and our immune forces as our defenders.

Earlier in this discussion I referred to the fact that tuberculosis appears in many guises. For this reason it has been said that no differential diagnosis is complete until tuberculosis has been excluded. In this respect it differs from most bacterial diseases, for such tend to run fairly uniform courses. This is even true of pulmonary tuberculosis, of which Cummings has said: "The clinical variations of pulmonary tuberculosis itself are infinite and demand a life study to be properly understood." One might at once ask why it is that animal experimentation does not help more in a rational understanding of the problem. The reply is that inoculated experimental animals develop the disease promptly, it runs a rapidly fulminating course and they all promptly die. At autopsy they all show the same pathology. It would seem that we get nowhere. Bourrell, the great French pathologist, after his clinical and postmortem examinations on the Senegalese tribesmen brought to France to serve in the World War, exclaimed: "This is not tuberculosis as we know it, it is the tuberculosis of infants, guinea pigs and monkeys!" But we, as students of the subject, do get valuable information from these observations; namely, children and unimmunized adults present the same post-mortem pathology that is found in experimental animals, and that immunized adults often do not die of tuberculosis, though infected, and if one does die the post-mortem findings are vastly different. Tuberculosis operates in its own way and differently in those who are not immunized, those who are feebly immunized, and those who are completely immunized. Hence it is valuable in one's estimate of a consumptive to learn that the patient has had scrofula or a pleurisy with effusion, for keen observers noted long ago that such cases gave a better prognosis before they knew the reason; namely, that we are dealing here with highly immunized individuals. In 1884, Marfan enunciated his law that a person who had had scrofula in childhood and had completely recovered from it would never contract pulmonary tuberculosis.

Before going further I wish to recall to your mind that there are two distinct types of tissue reaction to bacterial invasion, the first and most common one is the exudative or inflammatory type. It is prompt, there is redness, swelling, with the well known local and systemic signs of inflammation. There is a great outpouring of leucocytes, or so called wandering or moving cells. An every-day boil, for example, after the infection has spent itself there is a prompt return of the part to normal, for the fixed or body tissues proper have taken no part in the affair and in general have not been harmed. The second is the proliferative or reproductive type. It is essentially a reaction on the part of the fixed cells, the same reaction which the tissues make to a foreign body. The purest form of such a reaction is seen in benign tumors, such as a fibroma and infective granuloma. It is in reality a proliferation or growth of the cells of the connective tissue of the infected organs. It comes on and progresses very slowly, the wandering cells of the lymph and blood take no part in this reaction and there are no local or systemic signs of inflammation. When a non-immune animal is infected with tubercle bacilli there is first a proliferative reaction, the connective

tissue cells struggle to enmesh the bacilli, a tubercle results. The end of the second week the picture begins to change, leucocytes especially lymphocytes begin to rush in and the tubercle takes on very distinct signs of inflammation. This changed reaction on the part of the tissue after infection is what is known as allergy, and the intensely interesting part of the story is that almost at once all other parts of the body become allergic, and in this altered state of the tissues, if another dose of infection enters the body, the primed or sensitized tissues do not wait for two weeks to elapse but with an immediate response rush with an exudative and proliferative response to aid the infected parts. This changed or allergic quality remains as a permanent attribute of all body tissues, so long as tubercle persists in the animal.

It is thought by some that without allergy there can be no immunity. This may be true; we do know that those of us who are tubercularized, hence more or less immune, manifest this by a positive Von Pirquet reaction which, of course, is an allergic manifestation, and such of us undoubtedly have higher resistance to tuberculosis than those with non-allergic response. One often hears a consumptive complain of frequent colds or relapses; such incidents are highly characteristic of the disease. Their real significance is that, through a waning of resistance or immunity, tubercle bacilli are liberated in the body; immediately there is temperature, increased pulse, etc., which in reality is an allergic reaction. Apparently our immune bodies have to make a terrible commotion in order to defend us properly.

We have spoken of natural and acquired immunity, of allergy, of factors which increase and decrease the virulence of bacteria, all of which brings us up to their practical clinical application, the goal of all that has been said.

I shall ask you to visualize with me a young woman, plump and looking fairly well. She is fresh from the fields of Europe, she states that none of her people have had tuberculosis; she has recently become almost acutely ill, sharp temperature and pulse, probably has no cough or sputum; physical examination discloses bronchial breathing and flatness, little moisture, no cavitation; in short, extensive pneumonic areas. She loses flesh rapidly, the pulse mounts and at the end of ten to twelve months, dies. She dies because her initial infection was too massive. She had not received small immunizing doses of tubercle bacilli when a child, which in turn might have vaccinated or immunized her. She had no recessions of the disease with corresponding allergic responses. She died just like young children, guinea pigs, monkeys and primitive people. Her post-mortem would have disclosed:

1. Primary disease foci at portals of entry and in the neighboring lymph nodes. (These lesions of primary localization excite little or no reaction in the surrounding tissues.)
2. Generalization through the blood stream.
3. Metastatic secondary disease foci in capillary blood filters such as the lungs, the spleen, the growing ends of bones, the liver, kidneys, meninges, etc. (Cummings.)

The girl died of natural tuberculosis, or tuberculosis of the unimmune.

Deycke in his epidemiological observations in Turkey describes this type as follows: Predominating were the dry forms of pulmonary tuberculosis; that is, disseminated miliary tuberculosis, cheesy peribronchitis, and bronchial pneumonia and cheesy lobar pneumonia. He refers to the medical students who were sent to the hospitals for a year of internship. Twenty per cent of them showed manifest tuberculosis with approximately ten per cent mortality each year. These men were undoubtedly well on arriving in Constantinople. Natives from Tunis and Arabia, negroes from Africa and the Soudan, died frightfully on coming to Constantinople. It is recorded that the sons of Kalmuck families who attended school in Astrakan succumbed in such frightful numbers to acute forms of tuberculosis that the Russian authorities debated as to whether it would not be better to remove the

school into the center of the Kalmuch territory. In Tasmania, whole tribes of natives died of tuberculosis which they contracted from the English. The same is true of the Eskimos on being exposed to the disease. In 1915, thirty-five per cent of the deaths of American Indians was due to tuberculosis.

I shall ask you to picture another woman, born and brought up in a large city in this country. She is well along in middle age or might well be old. She states that her father and one sister died of pulmonary tuberculosis. She has had pulmonary tuberculosis for years. She coughs badly and has much sputum, showing elastic fibres and tubercle bacilli, has night sweats, slight temperature and moderate pulse. She is pale, emaciated and haggard; life for her is long and hard. The poet Shelly, who, no doubt, was this type of a consumptive, spoke of his feeling: "I could lie down like a tired child and weep away a life of care, which I have borne and yet must bear." She will linger on indefinitely, having a relatively high degree of immunity. She probably received small immunizing doses of tubercle bacilli when a child, was holding her disease well in check until a collapse of her immunity through collateral disease, malnutrition, pregnancy, or what not. She has what we commonly refer to as fibroid tuberculosis, that is to say—a fibrous proliferation predominates with only slight exudative responses. Physical examination would disclose impaired resonance, râles of all sorts, any type of breath sounds, and evidence of extensive cavitation. In this type there is a marked tendency to relapse and recuperate, which recalls the matter of allergy as referred to. It is nearly always the pulmonary type; it shows a marked tendency to arrest. Cavitation in this connection is to be regarded very definitely as an expression of immunity and presents a very sharp contrast to the young girl previously referred to. To quote Cummings again in summary:

1. A state of general hypersensitiveness to the products of the tubercle bacilli with a consequent tendency to sharp reactions and autoinoculations.

2. A considerable power of resisting subsequent infection.

3. A tendency to limit the internal extension of lesions by the formation of fibrous barriers and to facilitate the external evacuation of caseous products by ulceration towards open body cavities.

This woman has modified tuberculosis or tuberculosis of the partially immune.

It is this, the common type of tuberculosis, that fills our sanatoria. It is plain consumption, the kind that people in general recognize. Twenty-five per cent of old people in certain alms houses are of this type. Many winter coughers and asthmatics are of this type.

I have referred to the two extremes. Between these two remains that large class in which possibly most consumptives belong. It is the mixed type. To dwell on this type would be unnecessary, as it would only describe cases which take on more or less the qualities of the exudative or natural tuberculosis, or the fibrotic or modified type of tuberculosis.

It would be my great pleasure to ramble on indefinitely discussing other great factors which influence or control our immunity; however, the subject is too huge, for volumes have been written on each. Were I to place these factors in order of their relative importance, I would place environment first, then age, next food and clothing, disease, heredity with climate, pregnancy and abortion to be considered in passing.

In concluding my remarks, for the sake of emphasis I should like to recall the following points which I regard as the gist of what I have had to say.

Summary.—1. And disease becomes more disastrous when introduced to a people to whom it is new.

2. Natural or inherent immunity is something born with us, is greater in those born of races to whom tuberculosis is an ancient

thing and is also greater in those of tuberculous stock.

3. Acquired immunity is that type which is created in one by introducing into one's body doses of tubercle bacilli so small that the body complex is able to cope with them, and in so doing manufacture anti-bodies which continue to be manufactured so long as we have anatomic tubercle.

4. It has been noted clinically that the course of a tuberculous infection will be modified, depending on whether we are dealing with a primary infection or a reinfection.

5. Disease goes in waves of virulence and that under certain circumstances pathogenic bacteria become markedly attenuated.

6. Tuberculosis is a disease which gives many different clinical pictures, depending upon whether we are dealing with an unimmune, a partially immune, or a highly immune subject.

7. There are two major divisions of tuberculosis, the natural and the modified, with all degrees of variation between. Without this conception and a proper consideration of the associated pathology one is not prepared to handle the tuberculous.

8. Finally, I wish to say that I have drawn freely on the current literature, especially the masterful writings of S. Lisle Cummings, Krause, and many others.

STUDIES OF THE WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION *

By S. M. HAMILL, M.D.
Philadelphia, Pa.

THE WHITE HOUSE CONFERENCE on Child Health and Protection was conceived in the mind of President Hoover long before he occupied his present position. It is easy to understand the influences that stimulated his action. In the autumn of 1920, very shortly after the war had ended, Mr. Hoover made the following statement in an address before the former American Child Hygiene Association:

"My mind is perhaps more filled with the problems of child life than most laymen's. During the past six years I have had the responsibility of directing the organization and administration in special support—required by some two million infants and children in Belgium.

"Through four long years of war famine and again since the Armistice we have ministered to a horde of six million children in central and eastern Europe, of whom three million still remain upon our hands. I have thus been brought close to the great tragedies of child life in a great laboratory of mass action."

When he became president of the American Child Health Association he revealed to those of us who were members of its Executive Committee that he was a very close student of the American child as to its health and protection. Viewing the situation as a layman, with unusual experience in directing welfare projects of enormous scope, and with the mind of a trained business executive, he observed many things that those of us who were on the job had not fully realized. This led him to ask many pertinent questions, such as:

How far have we come in our efforts to provide satisfactory conditions for safeguarding the health and protection of our children?

What methods have been applied during the past years and which of these have been effective and which useless?

Do we know that the methods we use today are well-founded and deserving of perpetuation?

Is the work being done for children by agencies of all sorts well coördinated, or are we duplicating each other's work?

*Read before the West Virginia State Medical Association at Clarksburg on May 21, 1931.

Are we failing to be effective because of our unwillingness to pool our efforts and work together for the common good of the child?

Is it not time for us to take an account of stock?

In an attempt to find the answers to these questions, the White House Conference on Child Health and Protection was determined upon. A committee of men and women interested in and having knowledge of the problems of child health and protection was created to develop a plan for a nation-wide study of this vital subject.

This committee was organized under the chairmanship of Dr. Ray Lyman Wilbur. Meeting for the first time on the 2nd of August, 1929, it developed this plan:—The Conference was to consist of four sections, as follows: 1. On Medical Service; 2. Public Health Service and Administration; 3. Education and Training; 4. The Handicapped Child.

The committee wisely determined to limit itself to the selection of qualified chairmen for each of these sections, and outlining a *tentative* organization for each section.

The responsibility for the *final* organization and the selection of the personnel of the several sections was placed upon the section chairman with the following injunction: that each section should try to find out what is being done for the health and protection of our children, what is lacking in this essential program, and how the gaps that exist can be filled.

This survey was to involve the entire country and its dependencies—a rather formidable program.

The organization that was finally adopted resulted in a personnel of more than 1,200 carefully selected individuals, representing every aspect of child health and protection. These 1,200 people were divided into as many sub-commtitees as there were divisions of the subjects to be surveyed.

After more than a year of exhaustive study the general conference was held in Washington on the 19th of November, 1930.

The Section on Medical Service had outlined an important and exhaustive program which it was impossible to complete in time for this meeting. Therefore, it was granted the privilege of continuing its work until February, 1931. At this time the three committees of the section presented the results of studies on the growth and development of children, prenatal and maternal care, and on the medical care of children.

In reporting this meeting in the March issue of the *Survey*, Dr. Haven Emerson wrote, "That meeting will long be remembered as having assembled and expressed a greater body of fact, with its appropriate interpretation and practical application for the individual child, than could have been so related to our needs at any previous time in human history."

It is evident when one realizes that 325 individuals, divided into many sub-committees have been trying to collect all the information possible in respect to the three subjects referred to, and that they have been working continuously and intensviely for a year and a half, that it is utterly impossible for me to do more than refer to a few of the high spots embodied in the vast material that has been accumulated.

First of all I shall take up and limit myself largely to certain suggestive features of the Committee on Medical Care, of which Dr. Philip Van Ingen was chairman.

Realizing that "In every activity involving intelligence, judgment and decision, the training of those who carry the work forward is essential," Dr. Van Ingen's committee studied the courses provided for the training of those groups supervising the health of children—the physician, the nurse, the medical social worker, the nutritionist, etc.

Medical Education.—In respect to medical education, it was the aim of the committee to learn how adequately the men and women going out from our medical schools are trained in a knowledge of disease as well as in the

methods of promoting health and preventing disease. They made an exhaustive investigation of the curricula and equipment of the medical schools, the number of hours devoted to pediatrics, the effectiveness of the disposition of those hours in giving to the student the knowledge he should possess in respect to the normal child, the prevention of disease and diseases themselves as they are manifested in children. By means of questionnaires they gathered information from all physicians listed in the directory of the American Medical Association as specializing in pediatrics, or especially interested in pediatrics, as well as a large group of general practitioners throughout the country. These physicians were asked to indicate what they felt was lacking in the courses in pediatrics the medical schools had provided and to state in what particulars they found themselves unprepared to meet the problems they faced in caring for children. The object of these questions was to give the committee data that would indicate the deficiencies from the standpoint of the man in practice; for, after all, the function of a medical school should be to fit the practitioner to meet the problems that will confront him in the practice of medicine.

The committee realized also that the great mass of children are being cared for not by the specialist in pediatrics but by the general practitioner. Therefore, the purpose of a course in pediatrics should not be limited to the education of specialists, but should provide for the training of all medical students in the art of supervising the health of children.

The returns from the questionnaires exceeded the fondest hopes of the committee. They were also completely and intelligently answered and gave exactly the information that was sought to portray the needs of the practitioner as viewed by himself.

With this evidence before them, together with full replies from all but three of the medical schools, it was possible to determine the gaps in the training of the medical student in child health. It was manifest that the schools have not kept pace with the demands of medical education, all of them. "Some, an encouraging number, have, but the vast importance to the physician of thorough, practical training in the problems he must face, especially those connected with the promotion of health and the prevention of disease, has not been generally appreciated, or, if it has been appreciated, has not carried over into practice."

Failure to apply proper principles of teaching pediatrics is leading to unfortunate results. Thus, the field of mental health, one in which the lay public is rightly and keenly interested today, is being appropriated by all kinds of individuals and institutions, many of them non-medical, and most of them teaching irrational and destructive doctrines that are really a menace to the normal mental development of the child. This is a field which the general practitioner and the pediatrician, who see most of the children, must enter at once if they are to maintain their prestige. This should not be as trained psychiatrists but as practitioners equipped with sufficient knowledge to recognize the wrong mental trends in their beginnings and to advise parents in respect to their correction and prevention.

Very little is taught on the subject of body mechanics or posture. The answers to the questionnaires to physicians revealed a great demand for such instruction, because bad posture is one of the things that constantly confronts the practitioner. He not only wants to know how to recognize, prevent and overcome it, but he also wants to know its relationship to fatigue and disturbances of nutrition.

There is practically no instruction respecting dental caries, its cause or its relationship to general health. Yet 95% of the children of the country have carious teeth. This is the problem of the physician as well as the dentist.

The curricula contain little instruction regarding the normal newborn or the diseases he is subject to. Indeed, there exists an al-

most complete neglect of the normal growth and development of the child at all ages.

In this study of medical education the committee investigated every ramification of the subject. On the basis of the results obtained they have developed an outline for a well-correlated course which brings in whatever contributions the various specialties have to offer that will broaden the student's understanding of the child as a whole, in health as well as in sickness.

The subject of post-graduate teaching was also considered. The practitioner in our cities has opportunity to keep himself posted, if he cares to, respecting the rapid advances in medical practice. This is quite impossible for those in small communities, far removed from medical centers. They can not leave busy practices for long enough periods or frequently enough to enable them to keep abreast with the rapidly accumulating newer knowledge. Therefore, it seems desirable that this information should be brought to them. For this reason the committee urges strongly an increase in the extension courses which are being so effectively and acceptably given in some of our states through such agencies as state medical societies, extension service of universities, etc.

Nursing Education, etc.—In the fields of nursing, medical social work and nutrition, the committee found that the courses do not give adequate instruction in child care, especially in respect to the promotion of health and the prevention of disease.

It is manifest that the institutions responsible for the training of students in these several fields should face their problems and aim to readjust their courses to meet the demands of modern conditions. May I here stress the fact that these investigations were not carried on by theorists in a central office, but each profession was studied as to its theory and practice by eminent workers selected from the profession studied.

Hospitals.—An exhaustive study of the hospital facilities for children revealed an unsatisfactory distribution as well as ineffective organization for the best interests of the child in many of them. In some of the general hospitals children are accepted and placed in wards with adults. In others, separate wards are provided but they are not under the care of men with special training in pediatrics.

Facilities for the training of internes in pediatrics are inadequate in many hospitals. Under any circumstances this is serious, but in states requiring training in pediatrics before a license to practice is granted or in those in which there are medical schools demanding a year's service as interne before diplomas are awarded, this becomes especially serious. The committee feels that because this is a compulsory fifth year in which the student is supposed to receive continuous training the hospital chief should more fully appreciate his responsibility as a teacher. At present the interne is often left to acquire information without proper help and guidance.

The survey also revealed a lack of recognition of the value of the out-patient department as a teaching center. In the minds of managing boards and the hospital staff the out-patient department is too frequently looked upon as an unavoidable adjunct to the hospital. As a matter of fact from the standpoint of the student interne and the community, this department should be the most important division of a hospital. In it the student has opportunity to study the types of disease he will most often encounter in practice. From the standpoint of the community this department should be an educational center—a place in which the patient is not only treated for a specific complaint but also trained to realize the importance of keeping himself in health, and the value of periodic health examinations for himself and his family.

We have come to appreciate the close relationship of socio-economic conditions to disease. Without full knowledge of these conditions, the value of out-patient practice to the patient and the ability of the physician to make an accurate diagnosis and establish intelligent treatment is greatly restricted. It is for this reason that the American College

of Surgeons makes an adequately functioning medical social service department one of the requisites for high standing in its system of grading.

It is in the out-patient department *only* that the student interne can see the *normal* child, be taught how to maintain health and prevent disease. Some of the outstanding medical schools have established out-patient clinics for the supervision of the well child in which every student is required to spend a certain number of hours under instruction. In one school the students, as a part of their course in pediatrics, spend the greater part of each day for five weeks in the dispensary. During this time every division of the department contributes its share in attempting to train the student to comprehend the child as a whole, to qualify him to judge the normal and to recognize early the departures from the normal, even though they lie in the field of the specialties.

Convalescent Care.—The committee made a complete study of the subject of convalescent care. Sufficient stress is not placed upon the necessity for proper supervision of the critical period of convalescence in the training of the student in the medical school or in the hospital. Indeed, the practice in hospitals gives quite the opposite emphasis. Necessity demands that the hospital patient be released at the earliest possible moment following relief from the acute symptoms. In active services and in times of epidemics the turnover is especially rapid. This results in the student getting a wrong impression of the importance of continuous supervision until the child is well. From the standpoint of the child it means that he is usually returned to a home in which the facilities for supervision do not exist and this at a time when most careful consideration as to rest, sunlight, exercise and good food is required. Failing these essentials, convalescence drags along, the nutrition of the child suffers and far too often he drifts into a state of chronic invalidism; he becomes a definite charge to the family, and, where financial limitations exist, to the state, and a frequent return visitor to our hospital wards.

To meet these contingencies the committee has pointed out the necessity for more and better convalescent homes. Few such homes exist today. There is, however, an ideal institution in the city of Cincinnati which is equipped and administered as a modified hospital and is worthy of the study of anyone interested in this important subject.

Cross Section Survey.—One of the most illuminating studies of Dr. Van Ingen's committee was a cross section survey of the entire country, both urban and rural, made to determine the extent to which certain well-established preventive procedures are being used for the protection of the children of the pre-school age.

Time forbids detailed reference to the procedure followed or to the full results, but the revealing figures respecting vaccination against smallpox and immunization against diphtheria are worthy of your consideration: In a study of 140,000 children under six years of age in forty-six cities, but 22% had been vaccinated and 22% immunized against diphtheria. Among 37,000 children in rural areas only 7% had been vaccinated and 18% protected against diphtheria. These results were surprising and disappointing to all of us.

For the past ten years in the United States there has been a yearly average of 55,000 cases of smallpox and in the year 1928, the last for which we have complete statistics, there were 5,000 deaths from diphtheria, the majority of them occurring in this pre-school period.

It seems quite time for us to awaken from our smug complacency and see to it that every child we care for is protected from these dread diseases which it is quite possible to eradicate completely. Is it not the physician who possesses the most accurate knowledge of the value of these procedures? And is it not he who has the best opportunity to educate the laity in the importance of applying them in the first year of life?

Health Centers.—The committee also studied the distribution and methods of administration of the health centers of the country including under this term the various types of clinics whose function it is to supervise the health of the well child. The number is very great. Most of them are under the auspices of official public health organizations. There are, however, many operating as individual units under lay guidance. Few of them appreciate the value or the opportunity of carrying out a well-balanced general health program. They are in much need of reorganization and standardization.

"Every activity for the health and well-being of children has its medical aspect—education, recreation, relief," child placing, correction, etc. Many of these organizations, largely under lay guidance, have come to direct the medical aspects of their work without medical advice. Indeed, some have become almost resentful of the suggestion that they are in need of such advice. Many of the independent health centers are doing very poor medical work. In some of them the only medical advice is given by nurses.

Unfortunately, the medical profession has been in part responsible for this situation. We have held aloof and not infrequently assumed a critical attitude. We have even at times discouraged our fellow practitioners from participating in the work of these agencies, on the rather untenable ground that the things they are doing should be our prerogative and that directly or indirectly it interferes with our practices. Is this the right attitude? All of these institutions are necessary and will continue. Inded, they are expanding and multiplying. Their influence is growing. There seems to be no aspect of medical work into which lay groups are not willing to plunge. Parent-teacher associations, parents' councils, women's clubs, and many others are engaging in activities which are directly or indirectly medical. They frequently invite our assistance but we fail to give it. The natural result is that they proceed without us, gathering what information they can from the vast and often unsound literature that is available to them. They practice and teach unsound theories and greatly complicate our problems and practice and undermine the respect in which our knowledge and our profession should be held.

We should interest ourselves in their problems; we should sit in their governing bodies; indeed, we should be directing the medical aspects of their problems and we should regain the respect in which our opinions deserve to be held. We have in Philadelphia at the present time a very wise president of our County Medical Society—one of our most prominent surgeons. Realizing that the society was taking no active part in many of the activities pertaining to health, he offered the coöperative services of the society to some of the lay organizations. In his capacity as president of the society he was invited to and accepted membership on the board of the Health League—an organization which has as its purpose the coördination and correlation of the work of all agencies having to do with health. He was promptly elected chairman of the board. The results are that his opinion determines the board's action in respect to all medical questions and the County Society has become an active factor in the health work of the city. This does not mean that it dictates the policy. It coöperates and pays due consideration to the opinions of the lay members in respect to all aspects of their problems. The medical profession has much to learn from lay organizations that have been working for many years in the field of social medicine and the profession has much to give them. Working together, medical procedure is safeguarded, the public is better served and long-standing, destructive antagonisms are eliminated.

There has been a vast deal of health progaganda throughout the country. It has far outstripped constructive procedure. The laity is demanding that we keep them in health and protect them from disease. Someone must respond to this demand and, unless we are willing to aid these lay organizations

in the development of health and the prevention of disease, instead of giving our full time to the treatment of the sick, there is grave danger of our drifting into state medicine—an eventuality which we desire most earnestly to prevent. The control of this situation rests with the medical profession and, in my opinion, it involves a changed attitude on the part of the profession, a broadening of its practice to include advice respecting the promotion of health and the prevention of disease and a willingness to coöperate with all agencies and institutions active in the field of public health.

I apologize for having devoted so much time to the work of the Committee on Medical Care for Children. That of the other committees is of equal interest and importance.

The Committee on Growth and Development, of which Dr. Kenneth D. Blackfan was chairman, naturally delved deep into the field of pure science.

Dr. Blackfan, appreciating the wide and unwise gap that usually exists between the scientific and the practical, drew into the membership of his committee both the scientist and the clinician in almost equal numbers.

It is probably a unique experience in medicine that these two groups should have had opportunity to sit down together day by day through a year and a half to discuss the subject of growth and development, to relate the scientific to the practical and to produce ultimately a report teeming with practical information regarding the everyday procedures of clinical medicine. The interest of these two groups in each other's problems, their profound appreciation of the value of such a close-working relationship between the research worker and the practical physician led Dr. Blackfan to say in his closing statement that it was the sense of the entire committee that this relationship should be perpetuated and broadened.

The great accomplishment of this committee was the establishing of sound and practical principles upon which should rest all constructive work for the health and welfare of children.

They dealt with every aspect of the growth and development of the mind and body of the child from the period of conception through adolescence. They discussed the factors that influence these processes both favorably and unfavorably, including such items as climate, food, socio-economic conditions, education, disease, etc. You can readily sense the value of the clinician in the development of such a study.

I would commend for your consideration the classical summarization of this committee's work, presented by Dr. Blackfan at the closing session of the conference.

With equal enthusiasm I would urge you to read the summary presented at this same session by Dr. Fred L. Adair, who was chairman of the Committee on Prenatal and Maternal Care.

This committee of obstetricians has spoken plainly of the limitations of obstetric teaching and obstetric practice. They have stressed the fact that high maternal mortality in this country as compared to that of the other great nations of the world is a serious reflection on American medicine. They have pointed out that the high infant mortality of the first days and weeks of life, much of which is related to poor obstetrics, remains the same today as it was a decade ago. In language which can not be misunderstood they have recited the causes of these high maternal and infant death rates, placing the blame just where it should rest.

All three of the committees aimed, and we hope with reasonable success, to comply with the injunctions placed upon them: to find out what is being done to protect the health of our children, what is lacking in this essential program, and how the gaps that exist can be filled.

We have been deeply impressed by the gaps—which means that much work remains to be done if we are to assure to the developing generations the health protection it is their right to have.

This impression was so strong that the conference expressed itself to the effect "that a

properly organized follow-up which will put into action the information which has been acquired is of vastly greater importance than the mere collection of facts," and further, "that if the health of children is to be adequately safeguarded, the work has only just begun." I am happy to report that Dr. Ray Lyman Wilbur, chairman of the entire conference, has appointed a follow-up committee to be known as the Follow-Up Committee of Section One of the White House Conference on Child Health and Protection. This committee has held a two-day session which was largely devoted to the details of organization and consideration of its function, which was finally outlined in these words: "To advise constructively upon and alternatively to initiate principles of health betterment grounded upon the studies of Section One of the White House Conference on Child Health and Protection for inclusion in the working programs of existing organizations active in the promotion of child health."

Discussion

DR. R. H. PADEN, Charleston: Dr. Hamill's paper summarizing the findings and recommendations of the White House Conference on Child Health and Protection should be of particular interest to physicians for the solution of most of the problems as they concern the health of children must come through the medical profession.

The following mortality statistics for the years 1929 and 1930 give some idea of a few of the problems that challenge the efforts of the physicians of this state: In 1929, in the first day of life, there were 693 deaths and in 1930, 753; in 1929 the total deaths in the first week of life were 1,168 and in 1930, 1,279; the total deaths in the first month of life for 1929 were 1,596 and for 1930, 1,714; total deaths in the first year of life totalled 3,157 for 1929 and 3,370 for 1930; deaths in the first six years of life totalled 4,599 for 1929 and 4,805 for 1930.

These were 228 more deaths from diarrhoea in children under two years of age in 1930 than in the preceding year. Milk supplies, contaminated water and results of the recent drought, probably account for the greater part of the increase in the number of deaths from diarrhoea during the year 1930.

One of my duties as Director of the Division of Child Hygiene of the State Department of Health is the physical examination of infants, pre-school and school children in the counties having no organized public health service or public health nursing service only. Local physicians are always invited and usually participate in the conduct of these demonstration conferences or clinics. At numbers of these conferences we have noted that some of the physicians were rather careless in conducting the physical examinations, especially of children whom they had delivered, the tendency being to pat the child on the head and pass it by. These children's ages ranged from six months to six years and, on questioning the physician, we often found that he had had no professional contact with the child since it was a few weeks old, yet because of the fact that he had officiated at the time the child was born and found it apparently normal at that time, he took it for granted that no abnormalities had developed during the intervening months or years.

Thorough physical examinations of children, at regular intervals, sound advice to parents for safeguarding the child's health, and correction of remedial physical defects found are of decided value for conserving the health of children.

Immunization of children against diphtheria, smallpox and typhoid fever (the latter after the third year of life) should also be a routine procedure and every physician should endeavor to educate parents to the importance of securing such protection for their children.

DR. GEORGE M. LYON, Huntington: There are some things which Dr. Hamill has brought out and some things which we saw when we attended this conference in Washington that I would like to lay some emphasis on. The first was the profound degree of sincerity which attended the work done by the men in this conference. It was one of the most impressive things I think I have ever seen. The wholesome practicability of their studies, and the wisdom of their recommendations was something which should appeal to every individual who is interested in practice. They were keen in their appreciation of the medical man, whether general practitioner, surgeon, or specialist, and in their appreciation of the need of these men in the solution of the matters which they had been studying. One of the most important problems studied was the maintenance of proper child hygiene, one the medical profession should feel to be of very great importance.

All of us have seen children come in who are crying, underweight, irritable and possibly had some little physical defect, not much organically wrong. The busy practitioner often looks at such a child and says, "When his tonsils come out he will be all right." But most likely it is not the tonsils at all and it is not fair to treat the child that way. The history should be gone into and a study made of the home life. Not every parent knows how to take care of a child. The mother is probably doing the best she can under the circumstances, and yet that very poorly. The home is quite "maladjusted" and the child is a true reflection of the home situation. Often we must analyze the home situation in these cases, just as the social worker.

They emphasized the importance of mental hygiene in children. The Federal Public Health Services have taken it up, and we as private physicians must not be lax. We must give time to these children—must pay attention to them.

This has been a real big problem which the White House Conference approached, a problem bigger than any bureau or any department. It is bigger than any of our medical groups; and it is a problem not of any one group, nor of any one public health service, nor is it a problem of the medical man alone. It is a problem which requires the combined coöperation of medical associations and lay organizations, etc., and we must approach it on this basis. Jealousies, especially group jealousies, and things of that sort simply must be avoided.

Haven Emerson has stressed the importance of the individual physician in carrying out the details of the recommendations of this conference. He feels that there are definite limitations to which an organization in itself can go. An organization such as a public health organization, county health unit, or any similar organization has the natural limitations of any organization. The educational factors which such an organization can advance (to layman and physician alike) will probably constitute their most important contribution when it comes to solving these individual problems. The individual physician is going to have to bear the biggest brunt, going to have to do the most in really building the ground work of this problem. Emerson is probably as much in touch with this situation as anybody in this country and he feels that we must rely upon the individual physician to carry the program through. The health organizations are extremely important, lay organizations are important, but the physician has got to do his work and got to do it well, got to do it with a true appreciation of all the factors involved. Unfortunately, there is existent a great deal of "medical inertia" which must be overcome before the problem can go on through and develop. Until we, as medical men, lay aside much of our inertia, we are going to have a tough time and the travel is all going to be uphill. We must not be discouraged; we must go ahead with it.

The physician should become interested and realize that it is his problem and that it is not an effort on the part of the government to advance state medicine. He must realize that it is for the child—an extremely altruistic approach to a problem that deserves an approach of that sort.

Felix Underwood, in his remarks before the American College of Physicians in Baltimore, talked from the standpoint of the public health officer and with a great deal of experience he stressed the importance of having the personnel of any public health service selected with great care, and he urged that they be tactful men and that they approach the physician and layman with discretion. This makes for coöperation instead of antagonism.

He also stressed the importance of the physician, whether he be specialist or general practitioner, in becoming interested in public health measures, becoming interested in preventive measures and becoming interested in things such as have been brought out by this child health conference. Unless the physicians do appreciate their importance and responsibility and become coöperative, the public health organizations can not function the way they should. Combined work is going to bring about a result which will be much better than could ever have been accomplished by working against one another. I would like to make a plea for coöperation from the health departments and from the physicians themselves. I do not believe we are here in West Virginia taking the Child Health Conference seriously enough. We are indifferent. Men in our state are not interested in this work the way they should be.

Follansbee, who is chairman of the Judiciary Committee of the American Medical Association, in an address before the American College of Physicians, sounded a note that is not entirely in sympathy with this movement. If his expression was representative of the better thought in our American Medical Association, it is not very encouraging. He said we have taken the child, the normal child, and of him had made a "pathological entity," and

that we are not letting the mother rear the child in a normal way. This sounded very discouraging in the face of what we are considering here today. I can not agree with him. I think that it is too bad that a man as high up in the American Medical Association as he is should take this attitude in regard to the welfare of the normal child and the straightening out of his problems which are so important.

And now, in closing I would like to ask Dr. Hamill some questions.

First: Was there any foundation for the rumor that the Federal authorities tampered in any way with the report of this conference? The rumor has been very widespread throughout West Virginia that they have tampered with the conference report.

Second: Is it true that it was financed by private agencies and not by the Federal Government or the governmental agencies?

Third: As has been suggested by some, was this a step toward the development of state medicine by any agency whatsoever?

DR. DAVID LITTLEJOHN, Charleston: I wish to express my appreciation to Dr. Hamill for the very remarkable paper which he has presented to the society. He has sounded a keynote which it would be well for us all to bear in mind.

Dr. Hamill has brought to us some very conclusive figures regarding the problem of immunization against those diseases for which reliable and safe measures are available. He has shown that not to exceed twenty per cent of those who should be immunized, are being immunized by the practitioner. The other eighty per cent are going unimmunized. This condition must be corrected. When the State Health Department goes into a community to put on a demonstration campaign, we ask the coöperation of the local physicians. Why? For one reason and one only. That the people in the community may see the necessity for the work and that they may know that the State Department believes that the local physicians are qualified to do the work and is desirous of having them do it.

Not long ago we visited a county medical society and the question was raised that in our health program, we were taking the work away from the physicians. The fallacy of this is apparent. In any community the physicians have had years during which they could have been doing this work, but they have not done it. At this meeting we asked the doctors present how many of them had immunized their own children, and out of some twenty-five or thirty physicians present, only one answered in the affirmative, although many of them had children who should have been immunized.

We believe the chief reason why the practitioners have not been doing this work is because of the ethical relationship between the physician and his patients. They feel that they can not ethically ask their patients to have their children immunized. The health departments instead of taking work away from the physicians are trying to build it up for them. Through our demonstration work we are endeavoring to educate the public to the necessity of having this work done, to the safety and reliability of the measures being used and to give them confidence in the work itself. Through these objectives, the physicians can both ethically and legitimately tell their patients that they should have their children protected through immunization and that it is their duty as their physician to see that this work is done. It is the desire of the Health Department that physicians should do this work, but in view of the fact that they have not done it in the past, it has been necessary to educate the public as to its necessity and this can be done only through demonstration, in which the support and coöperation of the physicians are requested.

DR. HAMILL (closing the discussion): First, "Were the results of the White House Conference in any way influenced by the Federal authorities?"

When this conference was organized it became necessary to tie together a group of outstanding medical men from fields of pure science and from the practical fields of medicine, as they relate to the child and mother. One of the very first questions asked by the first group that got together in the Committee on Growth and Development, which was made up largely of pure scienstists, was, "Are we to have an absolutely free hand in the development of our work? If we are not we will have nothing whatsoever to do with the conference." As chairman of the Section on Medical Service, which included this committee, that question was put up to me. I forthwith went to Washington and discussed the question with Secretary Ray Lyman Wilbur, who was the chairman of the entire conference, and his reply to my question was: "The work of the Section on Medicine of the White House Conference is absolutely in the hands of the section. There shall be no interference with anything you wish to do." That promise has been fulfilled to the letter.

I think that you will realize that, since everybody in this section worked together enthusiastically for

a year and a half, there has been no attempt at any time to influence the work or the findings of the various committees of the conference. We had absolute authority to do what we deemed best. We were not only never interfered with but constantly encouraged, and when the question of final editing of the reports came up we were told that the editing would be left in our hands, as we were the only group qualified to do it effectively.

The conference was financed by private funds. The origin of those funds is unknown to anyone except the authorities of the White House Conference.

As to whether it was a step toward the boosting of state medicine, I think I almost answered that in my paper. At the meeting of the Follow-Up Committee held in Washington two weeks ago there was one thing we determined to do, and that was to build up faith on the part of the medical profession and secure their coöperation in everything we undertook. Without such support our efforts would be futile.

There has been reference made to the fact that practitioners are loath to ask their patients to bring their children to them for periodic health examinations. The questionnaire sent to physicians by the Committee on Medical Care bearing on that subject brought various responses. Some men said that they asked their patients to return and they came. Others said that they did not ask them to return because they felt that their request might be misinterpreted. Others said that the public had not yet been educated to the point of appreciating the value of health examinations.

I happen to be one of those pediatricians who ask mothers to bring their children to me for periodic examinations, and I know a number of practitioners who are doing the same thing. I have never had anyone decline to come, and those who come return for minor ailments much more often than they did before the periodic health examinations were instituted.

I sat by a general practitioner at a meeting in Philadelphia just a few weeks ago when this subject of health examinations was under discussion. He turned to me and made this significant remark: "For the last three or four years I have educated my patients to appreciate the value of periodic health examinations. I have had no opposition; not even one person has resented my asking it, and they come. I started the practice with an altruistic purpose in mind; but it is an interesting thing to note that my practice has grown and my income has increased since I began that." He added, "I was just looking over my books the other day and discovered this interesting fact. In order that I might have a better opportunity to make those examinations I educate my patients to return to me during the late spring and early autumn months when practice usually lags. I found to my surprise that I had taken in just as much money in the lax months as I had in the remaining months of the year."

I do not like to view this thing purely from a commercial standpoint, but the impression seems to be abroad that if we are going to interest ourselves in the protection of health we are going to lessen our incomes. As a matter of fact we are educating people to realize the importance of having the trivial departures from health properly taken care of, which means we will see them oftener. I do not think there is any question but that those who adopt this helpful practice will find that their incomes increase rather than lessen.

I am sorry that this wonderful session has to come to a close. I have enjoyed it immensely.

NASAL IRRITATIONS

Seven out of every hundred children have their hearing so much impaired as to offer a real handicap in their school work, according to a survey undertaken by the department of health of Los Angeles, Dr. Harvey D. Thornburg informs *Hygeia* readers in an article, "Preventing Deafness in Small Children."

"The subject of the prevention of deafness in small children should be studied both as an immediate and as a remote problem. In such a study one is concerned not only with the prevention of handicapping deafness during the pre-school and schoool ages, but also with prevention of nasal catarrhs, at first little noted, and with deformities of the nose. The latter conditions slowly and insidiously increase until much later in life they will be found to have impaired hearing to the point of marked interference with occupation and recreation," the author declares.

Infection of sinuses, deformity of the partition between the nostrils, accidents in learning to walk, epidemic childhood diseases, tonsil and adenoid disease often cause hearing impairment in children.

PRACTICAL METHODS IN THE HANDLING OF DIABETES*

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IT HAS previously been the custom of the Medical Service at the Wheeling Clinic to urge hospitalization of all diabetics upon whom the diagnosis had just been made. During the last six months, after a careful review of the factors involved, we have felt distinctly inclined to modify this policy and to advise a working plan whereby certain of these patients may be handled on an ambulant basis.

With the high state of development of many of our special hospitals and even of our general hospitals, we have observed that the machinery of the institution is able to take over the management of the diabetic patients with a minimum of direction on the part of the doctor. This results in a considerable saving in the physician's time and we must grant that this increased efficiency of the laboratory and dietetic departments is a laudable development. However, as a result of this trend of affairs, we have noted a definite decrease in the personal interest taken in the patient by the attending physician. It has become very easy to order a diet by figures alone and when this is the case, there is a corresponding decline in the ability, on the part of the doctor, to outline and manipulate diets.

Many diabetic patients feel relatively well and the necessity of remaining in a general hospital, in contact with all types of medical and surgical cases, is often quite objectionable.

From the economic standpoint, the greatest cost to the patient must necessarily be for hospital expenses. When the cost of extensive laboratory work, special diets, etc., is taken into consideration, the hospital bill usually far exceeds the professional fee, thereby producing a distorted relationship in the patient's mind as to the value of the service performed by the attending physician. In addition, such a patient is entirely removed from the usual employment, when in many instances, this would not be necessary.

It is very evident that certain types of diabetics must be hospitalized. We feel that this is true in children under twelve years of age, in patients seen in coma and precoma and in all individuals who require surgery, whether it be emergency or elective.

Methods of Instruction to Ambulant Diabetics.—The handling of diabetics can never be successfully carried out by anyone who has not a thorough grasp of the fundamentals of dietetic therapy. Although we live in the Banting era, yet we can never lose sight of the fact that the foundation of all diabetic therapy is dietetic. The construction, manipulation and adjustment of diets is not a matter of extreme difficulty or complexity but necessitates the acquiring of a few basic facts and constant practice in the use of these facts.

Let us assume, for example, that we have before us a patient; an adult male, age forty, weight 150 pounds, and engaged in the selling of life insurance. We have previously learned from examination of the urine, relation of symptoms and confirmation by blood examination that the patient is a diabetic of unknown duration. He presents no complications of acute illness or of surgical necessity. He is presumably a diabetic of moderate severity, although it is no doubt true that the actual height of the blood sugar is an inaccurate guide to the degree of severity in any case of diabetes. What is the best method of approach and to what extent can we educate this patient along diabetic lines?

As intimated above, we must first consider

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his dietary necessities. We must devise for him a diet which will keep his blood sugar within reasonable limits, which will supply him sufficient energy for his strength and endurance requirements incident to the activity of his business and which will reasonably satisfy his desire for food, thereby rendering him immune to the temptation of over-stepping his diet. In other words, we must supply him with as nearly a normal diet as is compatible with his carbohydrate tolerance.

Dividing his weight in pounds by 2.2 (2.2 pounds equals one kilogram) we find that he weighs sixty-eight kilograms. It is our custom to allow for moderate physical activity, thirty calories per kilogram. Multiplying sixty-eight by thirty gives a maintenance caloric requirement of approximately two thousand calories. The question arises in what proportion shall this two thousand calories be divided between the ordinary food constituents? It is our belief that as large a carbohydrate allowance as possible should be provided as we are accustomed in this country to make up the larger portion of our diet from this class of food. As a basic diet then, we should allow this patient one hundred grams of carbohydrate, seventy grams of protein and one hundred and forty-six grams of fat. Ordinarily adults are allowed one gram of protein per kilogram of weight. The fat allowance in this diet is not excessive and there is a strongly positive ratio on the anti-ketogenic side of the equation. To provide a diet of lower food value than here indicated would be to produce under-nourishment and necessitate a reduction of activity.

This may be called a test diet, although the series of progressive diets previously outlined by Joslin are not now employed. Various systems of so-called starvation diets are avoided as being unsuitable for the energy requirements of ambulant patients and tending greatly to the production of acidosis. These various maneuvers during one era of the development of diabetic therapy served their purpose admirably, but we feel that their usefulness has been outlived.

After the blood sugar has declined to one hundred and fifty milligrams with or without insulin, the carbohydrate is raised to one hundred and twenty-five grams, and later to one hundred and fifty grams. It is not raised beyond this point. The caloric value is now approximately 2200 calories. If this does not furnish sufficient energy, the fats may be safely raised fifteen or twenty grams. Such a diet can be readily balanced and constructed to include the proper vitamin and mineral content. Above all, it approximates closely the normal American diet.

It will be noted that the diet as outlined is neither one of extremely high carbohydrate value nor of extremely high fat value. Many adherents of both schools of thought may be found but we feel that a moderate allowance of carbohydartes is more advisable than the utilization of either extreme.

The next problem which presents itself is the matter of weight and measurements. We require all patients to measure all food which is eaten but we do not require the use of scales. While no doubt theoretically desirable for all diabetics, the weighing of food becomes of considerable practical difficulty. It sets apart the unfortunate individual from other members of his household and requires, when carried out over a considerable period of time, a most unusual development of will power and persistence. We also take into consideration the fact that there is a marked variation in the food content of various foods. While it is true that oranges may ordinarily be considered as ten per cent fruits, yet we are confident that they may vary from five to fifteen per cent. This being the case, no matter how carefully such food is weighed, the percentage of error must be great. We feel, therefore, that standardized household measures may be used with the expectation of reasonable accuracy. For this purpose, we make use of the ordinary kitchen measuring cup and the standard tablespoon and teaspoon. These articles may be purchased at any ten cent store. They are cheap, readily obtainable and replaceable and the measurements

are readily understood by those of very limited intelligence. We feel, therefore, that except in the case of children, the use of the standardized household measurement system is justified.

Substitute Foods.—There is ordinarily no objection to the use of substitute foods if they are desired by the patient. On the other hand, they are quite expensive and are certainly not very palatable. Lister's equalized flour seems to be the best tolerated substitute flour now in use and it meets a limited demand for such a food product. Bran muffins have little food value and at times are useful for the addition of bulk to the diet. In general, we feel that it should be possible to construct a proper and reasonably satisfying diet from the ordinary articles of food and that the substitutes offered must fill at best only an occasional need.

The Use of Insulin.—At this point, two courses are open to us. The patient may be continued on this basic diet without insulin but with frequent checks on the blood sugar. The decision for or against insulin may be reserved until the course of the disease is determined.

The other alternative is to begin insulin at once and it is this policy which we personally follow. We would place our hypothetical insurance agent on ten units of insulin in the morning and five in the evening. This dosage is safe and may be gradually increased until the patient is taking his maintenance diet without the production of a fasting glycemia of over one hundred and fifty milligrams per hundred c.c.

We have never encountered any real difficulty in teaching patients to use insulin. There are undoubtedly certain cases in which ordinary dietary control is quite sufficient and insulin is not indicated. However, in any patient exhibiting a moderate degree of diabetic involvement, if a satisfactory diet is to be provided, we believe insulin must be used, at least for a time. If the dosage is above twenty units per injection, U. 40, insulin should be used so that the total volume injected may be kept low. For this reason, we have all patients use the syringe with the U-20 and U-40 scale.

It is unfortunate that the idea has gained credence among the laity and among many physicians that if insulin is once begun it is necessary to continue it indefinitely. As a matter of fact, the use of insulin almost always results in improvement in carbohydrate tolerance, allowing for a gradual reduction and often an ultimate elimination.

Insulin reactions are rather feared by all, but I have yet to see any serious result from such a reaction. Therapy is so simple and so readily applicable that no difficulty should result from this cause. The classical symptoms of weakness, sweating and "thickness" of the tongue are not always present. The most dangerous type of reaction is an amnesia without apparent physical signs. The patient feels perfectly well but suddenly loses consciousness. He may go about his home or even may carry out certain activities without any memory whatsoever of the period. The condition is comparable to certain stages of intoxication from alcohol. Such a condition must be watched for carefully if a patient is known to have this type of reaction and carbohydrate administered.

Laboratory Control.—The estimation of the sugar in the blood is absolutely necessary in the diagnostic evaluation of diabetic involvement and for the purposes of accurate control. The severity of the diabetes, however, may not vary directly with the height of the blood sugar. It is hard to state what is the upper satisfactory limit for maintenance of blood sugar. We feel that no patient is safe from complications with a blood sugar continuously above 150. Complications have often developed with a blood sugar slightly above this point and with a negative urine. The chief causes of fluctuation are variations in diet, variations of insulin, superimposed infection, increasing arteriosclerosis with decreased blood supply to an extremity, mental anguish and excessive pituitary secretion.

The quantitative urinalysis performed on twenty-four hour specimens is quite a satisfactory estimate of progress so long as sugar is present in the urine. After there is no longer any glycosuria, this, of course, becomes a worthless guide.

Use of Drugs in the Treatment of Diabetes.—No discussion of diabetic management is complete without a word of comment pertaining to the use of certain drugs for oral administration:

1. Synthalin:

   This drug is a derivative of guanidine. It undoubtedly lowers the blood sugar but this lowering is due to its effect on the liver. The toxic dose and the therapeutic dose are so nearly the same that its use is impracticable over any period of time.

2. Pancreatin:

   This is supposed to represent the enzymes produced by the pancreas other than insulin. Its administration by mouth is said to be of accessory value in the control of this malady. No evidence has ever been produced to confirm this idea. It certainly does not harm and probably does no good.

3. Salicylates:

   The salicylates are said to have a slight reducing effect on the blood sugar but if this is true at all, it is in slight degree and very uncertain in action.

4. Myrtillin:

   An effort has been made to utilize the effect of plant insulin by incorporating the juice of the blue berry leaf in a tablet which is known as myrtillin. No regularly demonstrable effect on blood sugar has ever been produced by this substitute.

5. Sauer Kraut Juice:

   Sauer kraut juice is a well known country remedy for diabetes. It undoubtedly contains some plant insulin and has a mild effect upon the height of the blood sugar. We feel that one hundred c.c. of sauer kraut juice is probably equivalent to about five units of insulin. The effect is somewhat uncertain and varies with different individuals.

6. Liver:

   Liver or liver extract is believed to be capable of replacing a certain amount of insulin (180 grams of liver equivalent to 10 units of insulin). This statement has been challenged but the original observers (Blotner and Murphy) present their claims with a very convincing array of evidence.

7. Oxygen:

   Attempts have been made in Russia and also in this country by pseudo scientists as well as scientists to employ the use of oxygen in the treatment of diabetes. The results to date are extremely hypothetical and it is probable that no effect is exerted by the increase of oxygen tension which can ordinarily be maintained without harm to the individual.

Conclusion.—It is extremely desirable for every physician to be familiar with the details of diabetic diet manipulation and control. When this is the case many patients having uncomplicated diabetes may be handled in an ambulant fashion with results satisfactory to both doctor and patient.

EXCESSIVE CELL GROWTH

A swelling, a lump or a dragging sensation in the left side of the abdomen sometimes leads to a diagnosis of a peculiar disorder known as myeloid leukemia. The blood itself is really a specialized tissue that needs cell repair as well as food. When cells grow in unbounded proportions, disregarding all the usual laws of cell production, "tumors of the blood" result just as they may do in other tissues. Myeloid leukemia is formed by the granular leukocytes growing in over-abundance. Another type is lymphatic leukemia, formed by nongranular leukocytes. Both conditions may be either acute or chronic. Cases have been recorded having a duration of from ten to twenty-five years; again the condition may prove fatal in three or four months, Dr. Robert A. Kilduffe expounds in *Hygeia.*

THE RETINA IN HYPERTENSION—A HYPOTHETICAL VIEW AS TO ITS CAUSE

By K. G. KHOROZIAN, A.B., M.S., M.D.
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ONE of the most prevalent morbid entities the human body is aflicted with is vascular disease. At the present stage of our civilization and the broadcasting of accurate and reliable knowledge the public is not only asking the cause and the effect of a definite disease entity, but also inquiring into the "why" medical science is not discovering the origin of a given disease.

They know as well as we do that the doctor is as helpless as the patient is hopeless in certain morbid conditions. One of the latter is hypertension or plus tension, whatever other name you give to it. Undoubtedly Helmholtz was one of the greatest benefactors of humanity by his invention of the ophthalmoscope in 1851. This small instrument of precision opened a new era in the observation of diseases of local and general character. The addition of red free light in the examination of the fundus oculi widened the field of ophthalmology and the world of internal medicine. It is a pity that Helmoltz' ophthalmoscope is not as widely used as Laennec's stethoscope.

The optic nerve and retinal vessels being the two most important representatives of the two most vital systems of the human make-up—nervous and vascular—are the only parts visible to direct examination, observation and check up.

Of the vascular diseases, true arteriosclerosis with or without hypertension attracted the attention of the internist and ophthalmologist alike in the examination of the retinal vascular system before anything was known about essential hypertension, or hypertensive cardiovascular disease, or hyperpiesia as called by Sir Clifford Allbutt.

The noted English neurologist Gowers[1] first described the retinal arterial system and linked the contraction of the retinal arteries with Bright's disease. The same honor on the American continent is given to Friedenwald.[2] To the epochal work of these two English speaking pioneers Raehlman added in 1889 the tortuosity of the vessels, compression of the veins, arterial and venous pulse, aneurysmal dilatation and appearance of white lines along the vessels. Gunn added increased brightness of the central light reflex and De Schweinitz in 1906 corkscrew deformity of the vessels. Wagoner and Gipnes possible thrombosis of the arteries in 1927, and Bedell[4] in his excellent photographic studies gives as the primary change in the arteriosclerotic retina pushing aside of the veins by the hardened arteries when they parallel each other.

The ophthalmological findings in essential or benign hypertension are not as nil as has been considered by some. Undoubtedly this depends on the stage of the hypertension. The known facts are hyperemic disc, dull or cherry red retina, with increased central light reflex, simulating the color of silk worm gut, as far as I can describe it. Dust-like white spots are scattered on the retina more especially in the macular region. Bedell, in his article referred to above, writes that the increased fullness and visibility of the nerve head capillaries is suggestive of hypertension. We see the same small capillaries more especially on the temporal side of the disc in fairly advanced true arteriosclerosis with 2 or 3 plus albumin in the urine. These capillaries usually ramify from a single parent stem on the temporal side of the optic disc and divide into three parts, upper, middle and lower. From the lower we see some outshootings hardly visible, with herniated sacs. Another characteristic appearance of these twigs is that

the central light reflex diminishes as we trace them to the periphery of the optic disc, where the reflex gets a reddish tint and looks like a water pipe emerging from the ground or disappearing under the ground when an attempt is made to cover it. Clinically the arteriosclerotic some time or other comes with the history of specks before the eyes, headache, a little shortness of breath, "can't walk very far without getting tired, my hearing is failing me, eating meat in excess sometimes produces tingling in my arms and legs, stooping over and then rising gives me a dizzy feeling." In part or wholly this symptomatology appears in the hypertensive cases, and this period is either just prior to or just after the appearance of albumin in the urine. At this time the retinal picture gives striking changes in the appearance of the vessels—the arterial central reflex is broader, and has a yellowish hue, the veins are fuller, and look darker in color, possibly there is herniation of vessel walls and the retina looks redder in color than previously, with punctate spots here and there like flour particles scattered on a red background.

In current medical literature there are different names given to essential hypertension such as arterial or benign hypertension, the pre-albuminuric stage of Bright's disease, the pre-sclerotic stage of arteriosclerosis and chronic hypertensive cardio-vascular disease; but the ultimate outcome is the same as genuine hypertension — three defects — cardiac, renal, and cerebral—cardiac failure, renal insufficiency, and cerebral hemorrhage—as shown by Paullin.[5]

On the experimental side we have the too much talked: 1. Adrenalin arteriosclerosis—the commonest pathology being the deposit of lime salts in the intima of the arteries; 2. Cholesterol arteriosclerosis—the outstanding morbidity being the deposit of lipoid in the intima of the arteries. The common element to the two is that there is, in the circulation, a body foreign to the cellular metabolism of the organism. On the other hand, of the animals fed on grain, soy bean, and liver, the one fed on liver diet showed arteriosclerosis with hypertension with albumin and casts in the urine, increased urea nitrogen, and so on.[6] Referring to the toxemias of pregnancy as an intermediate point for the explanation of our thesis, in the pre-toxemic or pre-albuminuric stage, the blood chemistry is normal as is the fundus examination; but adjacent to or coincident with the appearance of albumin in the urine, the ophthalmoscope discloses tortuosity of retinal arteries, hemorrhagic areas and white spots. In essential hypertension the causative agent is the high tension or some alternation in the chemical make-up of blood or a morbid nourishing agent to the arterial walls. Personally I am inclined to the latter.

A Clinical Observation.—Mrs. C. B., age 43, mother of thriteen children, had a systolic blood pressure fluctuating between 165 and 180 in the last three years. Repeated urine examinations were negative for albumin, sugar and cellular elements. Repeated examination and check of the fundus showed only a cherry or dull red retina, vivid disc and central light reflex as described above. Pregnancy intervened in 1929, and she was under observation from the sixth week up to the onset of labor. Urine examination every four weeks and repeated ophthalmoscopic examination of the fundus showed no difference from the pre-pregnancy stage. Toward the last part of gestation the systolic blood pressure went up to 225 mm. Hg., and albumin appeared in the urine. Fundus examination showed after the appearance of albumin still a vivid disc, bright cherry fundus, plus dot-like white or yellowish white spots scattered here and there, the central light reflex more pronounced, the veins fuller and thicker, with the walls pouched out or ballooned up, and slight herniation here and there, definitely visible in the right hand branch of the temporal vein.

Deduction.—In hypertension there is some alteration in the composition of the blood undiscoverable with our present methods of examination—either protein and lipoidal in nature evidenced by the fact that at the time

of appearance of albumin in the urine the previous retinal picture intensifies and simulates the fundus of true arteriosclerosis with high tension, and palpable radial arteries, but no albumin in the urine. The condition is found mostly in people of past middle age, with a fundus picture of increased light reflex, compressed and beaded veins and aneurysmal arterial walls like a bundle of strings of a medusa head. These individuals in the next half decade or so will show albumin in the urine and a true fundus of real arteriosclerosis.

Hypothetical View as to Etiology.—Granger[7] in his article summarizes the present views on essential hypertension as sclerosis of the arterioles of the medulla, vasculoneurosis, hereditary eudocrine disturbances, vascular changes in the kidney, and infection. Stieglitz[8] in his diagrammatic representation of the causes of hypertension mentions irritation, spasticity, fatigue, and so on. We know from our frog-leg experiment that the cause of an irritation can be a chemical, a thermal or an electrical stimulus. The commonest pathology in the essential hypertension found invariably by different investigators as Bell and Clawson, Fishberg and Jaffre[9] has been sclerosis of renal arterioles. The last named in his closing paragraph states, "The afferent arterioles are not only exposed to the rise of the pressure in their lumen, but the irritating matter of exogenous and endogenous origin will also accumulate in that part of the arterial system and act most intensely upon its walls."

From a hypothetical standpoint in considering these endogenous or exogenous toxins—protein and its split products has attracted attention for a long time. Protein, before it can be utilized in the animal body, has to be broken down from its complex chemical composition to more simple formulas. This simple structure is the amino acids or building stones, as some of the continental writers call it. As a general example we can say that the composition of these building stones contains the radicle $R.NH_2$, where R. stands for an aliphatic or aromatic carbon chain group and NH_2 indicates an amino group. And like a circle these bodies, in order to be built into tissue structure, have to be synthesized again to more complex molecules in the cell body of the organism. In the terminal stage of hypertension the outstanding histo-pathological change is the hyaline and lipoidal degeneration with subsequent fibrosis, identical with that of arteriosclerosis. This structural change from a normal to an abnormal can be explained by the inability of the individual cells to synthesize these amino groups for their own upkeep, or abnormal synthesis of pathologic order, or both under a common influence. This is a hypothetical question, but Major's experimental observation gives a clue to this hypothesis that injection of guanidin produces strict constriction of vascular walls, and another notable observation is that injection of guanidin produces constriction of retinal arterioles.

Guanidin is the split product of an amino acid arginin which is chemically $NH_2\ C(NH)_2\ (CH_2)_3\ CH\ NH_2\ COOH$.

Our present therapeutic armamentarium in its positive and negative phases gives support to this hypothesis that metabolic end-products of abnormal metabolism, or synthesis of the protein molecule is the causative agent in the production of plus arterial tension. Protein, in order to be utilized, has to be transformed into an electrolyte which in this case will be an amino-acid. More likely the pernicious effect of this protein split molecule lies in the amin or amino group or an intedmediate product containing the group of $R.NH_2$, more likely linked as a side chain to Kekule's cyclic ring benzene or some other ring compound.

Three of the blood pressure raising compounds conform to this theoretical substance —epinephrin, ephedrin, and tyramin—taking for example epinephrin which is chemically $C_6\ H_3\ (OH)_2\ CHOH\ CH_2\ NH\ CH_3$ and ephedrin which is chemically $C_6\ H_5\ CHOH\ CH(CH_3)\ NH\ CH_3$

Both compounds contain the same group

but in different positions where the NH radical is linked to an aliphatic carbon atom in the alpha or beta positions, and which aliphatic carbon atom is linked to a cyclic compound.

Considering the question from its therapeutic or negative phase, the time honored therapeutic weapons in the management of the hypertension have been the iodide and nitrite groups, and lately a new-comer upon the field, the thiocyanate or sulphocyanate group.

In the face of these theoretical considerations the beneficial effect of these agents is simply a neutralization process of this NH_2 group. Taking an example of each will explain the thesis better than verbal description,

$$R.NH_2 + KI + H_2O = R.NH_2HI + KOH$$

$$R.NH_2 + NaNO_2 + H_2O = R.NH_2.HNO_2 + NaOH$$

Just one step further, let us take histidin, which is chemically alpha - amino - beta - imidazol-propionic acid, and on the basis of that general formula will be R.COOH, but replacing the group of -COOH with that of $-NH_2$ we have $R.NH_2$, histamin, a powerful chemical which attracted the attention of research workers in the last few years in the investigation of the increase of gastric secretion, in the alkali reserve, in the increase of non-protein nitrogen and so in the increase of urea nitrogen. We wonder if the element in the thyroid and its pathological conditions belongs in the same category. Thyroxin, according to Harrington's investigation, is tetraiodo-papa-hydroxy-phenyl ether of tyrosine, or, according to Kendall's formula, is 3, 5, 6 trihydro, 4, 5, 6 tri-iodo, 2 oxy, 3 indol propionic acid. Both conform to the above hypothetical question, in that both contain an open and closed ring of carbon compounds with an available amino group, able to form salts with weak acids.

We wonder if the administration of iodine in its various forms, organic or inorganic, has something to do in the neutralizing effect on the amino group in that compound.

It will be a fascinating subject for one with ample clinical opportunity and an amply equipped laboratory and purse.

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HYPERTENSION

Heredity, emontional strain, overeating, overwork, certain diseases and focal infections have been listed by Dr. Wingate M. Johnson in his article, "The Low-Down on High Blood Pressure," appearing in the February *Hygeia*.

Dr. Johnson says that extremists have made too much and too little of high blood pressure, or hypertension. He maintains:

"If hypertension is taken as a symptom instead of a disease itself; if its importance and its danger do not become exaggerated in the mind of the patient; and if its treatment does not overshadow the treatment of the patient, it may be a valuable aid. If, on the other hand, an individual who is inclined to be hypochondriacal meets a doctor who exaggerates the condition into a disease, who insists on taking the victim's pressure at frequent intervals and telling him just how high it is, and who punishes him with a too strict regimen of living, it were better for him that a millstone were hanged about his neck, and his misery quickly ended."

"Every physician of experience knows that finding high blood pressure does not mean signing a patient's death warrant, for there are numerous persons who have been enjoying reasonably good health and leading active, useful lives for long periods of time—many of them as long as we have been taking blood pressures," Dr. Johnson concludes.

A ROMANCE OF PATERNALISM *

By WALTER F. DONALDSON, M.D.
Pittsburgh, Pa.

TOM JONES and Paul Smtih, each aged 21 years, graduated together from a Pennsylvania college in June, 1918, and immediately enlisted for service in the World War. They remained in separate training camps in the United States, and were honorably discharged in improved health in December of the same year.

Jones entered a broker's office, and ten years later, at the age of 32, was prosperous and in good health, except for an epididymitis, which developed in 1930 after an ardent but ill-fated affair with a woman of easy virtue. Smith entered medical college in 1919, and after the necessary five years of preparation and two additional but voluntary years of hospital training, began practice in his home town, and in 1930 was chosen to be the genito-urinary surgeon on the staff of the local general hospital.

Broker Jones consulted Dr. Smith, his former comrade in arms, regarding his infection, and Dr. Smith advised an operation, to be performed at the home town hospital, and plans were made accordingly. But an enthusiastic former comrade, with a political slant toward special benefits, hearing that Jones was hospital-bound, reminded him that a vote-seeking group of congressmen had recently successfully piloted through Federal legislation providing free hospitalization and treatment for all former soldiers, regardless of their ability to pay or the relation of their disability to their war service. So, prosperous Jones, with his impairment received in an *affair d-amour* eleven years after his discharge from the army, was transported, at government expense, to and from a distant government . hospital, while Dr. Smith chalked up another fee lost, and the local hospital another empty hospital bed, to the absolute unfair paternalistic competition of Uncle Sam.

Who provided the cash to pay for Broker Jones' free transportation, free hospitalization, and free treatment? His former comrade Dr. Smith, his neighbors who maintain the hometown hospital, and others who pay a Federal income tax. Approximately 15,000 of the approximately 30,000 World War soldiers at present in recently built, but frequently unnecessary government hospitals, are being treated for ailments in no way related to their army experience, and without consideration of their financial ability to pay the charges of hospitals and physicians adjacent to their places of residence.

Was Jones, during his convalescence at the hospital, much in contact with other patients —the much honored and worthy beneficiaries of a grateful government? No! Those today in government hospitals surviving wounds and sickness or disease actually related to war or camp service number but 15,000, and they are often segregated from the other 15,000 at present in government hospitals, who, like Jones, are receiving free treatment for ailments in no way related to their army experience and without consideration of their ability to pay for treatment nearer home. So, in company with other country club members, who are convalescent from tonsil or appendix operations, or from an attack of gout or "nineteen hole" neuritis, Jones whiles away a prolonged period of convalescence criticizing the wise preisdent of the United States, who successfully obstructed the passage of legislation designed to extend the same economically unsound free hospital benefits to all the members of the families of former soldiers. Of course, Jones and the others wondered when an ungrateful govern-

*Read before the Tristate Conference, Philadelphia, May 23, 1931, and republished here with special permission of the *Pennsylvania Medical Journal*.

ment would include free clothing and free shoes, or begin to transport its indolent heroes to free hospitals built in Hawaii or Porto Rico, rather than to those only 2000 miles away from home.

After a stay in the hospital three weeks longer than necessary, or possible had Jones been paying for it (it is difficult to find enough patients to fill the beds in many of the government hospitals), Jones returned to his home town, where for a long time he "groused" about the quality of the free service he received from a bureau-controlled government hospital.

In the meantime, Dr. Smith having aroused the interest of his fellow Federal income-taxpayers on the board of directors of the local hospital, as well as in the county medical society, is, or should be, endeavoring to covince his congressmen and the senators from his state that the Federal government must respect certain fundamental principles of "states' rights," and abandon its policy of providing free medical and hospital care, and financial relief for war veterans, except for impairments which can be reasonably related to war service, or the veteran who is unable to pay for treatment. Dr. Smith contends that since physicians represent the first group of citizens whose economic welfare is seriously threatened by this form of paternalism, and since they compose one of the few remaining individualistic professions, it is the duty of physicians to become politically conscious and to take the lead in fighting for recognition of "states' rights" and for discontinuance of Federal interference.

Those of us who retain knowledge of the meaning and relation of such Victorian words or terms as "pork barrel," and "rivers and harbors," to congressional raids on the Federal treasury, will no doubt agree that the large sums of Federal money spent in a congressional district to "improve" the harbor facilities of an erstwhile lackadaisical creek or river, or to erect a post-office building extravagantly large and ornate for the actual service requirements, pale into insignificance politically when compared with the patronage possibilities following upon success in landing a $2,000,000 veterans' hospital for the "old home district." The initial investment may appear a paltry sum, but the annual budget and the political strength and patronage garnered in the influence of several hundred hospital employees in a congressional district may assure the fortunate congressman many terms in office. Therefore, the Veterans' Hospital Racket is here to stay.

Surely, those who pay taxes to the United States Government will not supinely continue to approve free medical, surgical, and hospital treatment of the disabilities of 4,500,000 veterans which originate as ordinary incidents of every-day life twelve or more years after the World War ended. Congressmen and senators who support such legislation must be rebuked at the polls, and the great majority of the veterans retaining their patriotic principles must repudiate the noisy minority who continue their raids on the public treasury.

An editorial writer in a recent issue of the *Outlook* ascribes the victory in the passage of the Johnson Bill to the "grasping element in the American Legion," and to "cheap politicians in Congress who will oblige any vigorous minority in order to be reëlected." The same writer describes the bill as: "A grab, a gouge—nothing more. Under the guise of providing for some meritorious borderline of disability, it opens the door for general pensions for everybody (4,500,000) who wore khaki during the World War.

"When the country adopted the War Insurance Act in 1917, it was assured that the scandals of the G.A.R. pension grab would never be repeated. When it granted the bonus, it was reassured again. The Legion itself went on record as opposed to general pensions. Yet, where are we now? Now we have a brand new method of granting money based on present-day accidents in civil life, and having nothing to do with the war."

With full knowledge of such facts, Calvin Coolidge said: "All countries on earth in all

history, all put together, have not done as much for those who have fought in their behalf as our country alone has done since 1880."

It becomes hard for physicians to remember the earlier resolve to support every possible form of assistance to veterans, the victims of disease and injury resulting from war service, when we look on with righteous indignation while prosperous veterans are treated, without cost, at government hospitals, for civil life impairments such as enlarged tonsils, while vacant beds remain plentiful in home-town hospitals that are supported by the same citizens whose tax money also pays for the erection and maintenance of the already too numerous veterans' hospitals.

Apparently nothing can daunt the determination of the American Legion and other veterans' organizations in their relentless march toward bigger and better government aid for ex-soldiers. Following the recently enacted Federal legislation making available the cash bonus will come the already announced legislative program for immediate cash payment of all bonus certificates at their matured value. Who shall take the lead in developing resistance to this veterans' pressure, in shaming veterans out of such demands? If our younger men are taught that service to their country means that our Government thereafter must reward them irrespective of their needs, then we are indeed undermining the very foundations of good citizenship. Veterans must develop and manifest a peace-time patriotism before the burden of pensions becomes intolerable.

Our Civil War pensions, instituted in 1879, amounted in the year 1919 to $125,000,000, or four times as much as they were fifty years earlier. If, as was recently proposed by National Commander O'Neil, of the Legion, the next Congress grants equality of pensions for veterans of all wars, then in a short time the Federal Government will be paying out annually to its more than 4,000,000 veterans more money than we spent while actually engaged in the World War. A Billion Dollars A Year!

Mr. Smith, while agreeing that our Federal government should show every possible reasonable consideration to our war veterans, also emphasizes the fact that a larger proportion of physicians entered government service in 1917 and 1918 than from any other professional group. When the proposed forty-seven or more veterans' hospitals, each sustaining more salaried employees than patients, have been completed and occupied, then will "state medicine" have been thoroughly established throughout the United States, never to be displaced because of the political patronage involved. And when veterans or their relatives no longer abound, then will the free hospital service be extended to other citizens; and by 1960 the private medical practitioner and the neighborhood hospital may largely have passed out of the picture.

Think it over, readers or hearers of this basically true story. Discuss it with your taxpaying neighbors, and with your congressmen. Any governmental policy which decreases the present-day attractiveness of medical practice to the intellectual type of mind, and causes men of ability to forsake it, is certainly against sound public policy. None can successfully deny, it is believed, that the Federal government, by the policy herein complained of, is in unfair competition with private physicians and the supporters of local hospitals who in turn are taxed to finance this paternalistic, bureaucratic form of medical and surgical hospital and dispensary practice.

INFANT FEEDING

With the beginning of the third day, the newborn infant should nurse both breasts every four hours, the most convenient hours being 6 a. m., 10 a. m., 2 p. m., 6 p. m., 10 p. m., and 2 a. m. If a three hour schedule is inaugurated the hours will be 6 a. m., 9 a. m., 12 noon, 3 p. m., 6 p. m., and every four hours during the night, at 10 p. m. and 2 a. m. These feeding schedules are suggested by Dr. Joseph H. Marcus in "Nourishing the New-Born," an article appearing in February *Hygeia*.

SHOULD UNCLE SAM RENDER MEDICAL CARE TO VETERANS, AND HOW? *

By W. E. WHITESIDE, M.D.
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THE TREND of medical events in the United States in the past few months, and the attitude recently manifest by the editor of the *Journal* of the American Medical Association has prompted the writer to ask again the indulgence of this society while he attempts to answer the questions in the title chosen for this paper.

To the first question, viz: "Should Uncle Sam render medical aid to the veterans?" Excepting perhaps the very wealthy or well-to-do, I think the answer is well nigh unanimous in the affirmative, so to that question I shall give a most hearty and emphatic answer, yes.

The second part of the title is not so simple or so easily answered, and it is to this question: "*How* shall the veterans be cared for by Uncle Sam?" that this paper is dedicated.

There are several phases involved in the answer to this second question, and I shall attempt to name a few of them in the order of their importance:

First: What is best for the veteran himself?

Second: What is best for the community, county or state of which the veteran is a citizen?

Third: What is best for the medical profession?

I have purposely chosen to consider, first, what is best for the veteran, because I readily admit that unless this first question is to be met satisfactorily then it is not worth while to discuss the other two.

Here I am reminded of a little story: "An auto salesman asked a prospective customer how about buying a certain car, to which the prospect replied, 'There are three reasons why I don't want your car; first, I don't have any money.' 'In that case,' replied the salesman, 'you need not name the other two'."

So, keeping in mind our first object—the best service to the veteran himself—I am going to take a stand against the United States Government building hospitals, especially for the veterans, or employing physicians whose practice is to be limited to the treatment of veterans alone.

Instead, let me propose that the veteran be allowed to enter any hospital in the United States for treatment of any injury or disease, to remain in said hospital so long as treatment is necessary, and when discharged from said hospital his bill to be paid by the United States Government according to certain standard fees as provided by the government.

Further, that, in case the veteran becomes dissatisfied with the hospital, he shall have the privilege to change to any other hospital of his choice, just as though he were a private patient in the hospital.

In other words, why not keep the relationship of hospital and patient or physician and patient free, as they are in private practice today. The red tape of all government business will permeate government operated hospitals and soon will operate to the disadvantage of the veterans who may be patients in them.

In our little town this year some several weeks elapsed between the time a veteran applied for treatment and the actual date of admission to a government hospital. In the case of an automobile injury or a ruptured appendix, how would you like to wait two to twenty weeks for admission to a hospital?

So sure am I that the veterans themselves would prefer treatment in a private hospital

* Read before the Barbour-Randolph-Tucker Medical Society at Elkins on December 15, 1931.

of their own selection that I challenge the government to give them the privilege of choice between private and government-owned hospitals.

Now as to the second query as to what is best for the state. Why build two bridges across the river while one is more than adequate for the traffic? Why build more hospitals at an expense to the taxpayers with thousands of vacant beds in the hospitals now available?

Once the hospitals are built, how about the maintenance? Have we not learned from numerous examples (for instance, railroad management during the war) that government operated hospitals will cost more per patient than privately operated hospitals? Then what shall we do with these government-owned hospitals when the need for them has passed? Shall we continue to have wars to furnish veterans for our government hospitals?

Why not let us face this matter squarely and say to the demagogue, who would make a political football out of the veterans' needs, as the French said to the Germans at Verdun, "They shall not pass!" (Ils ne passeront pas!) Carry this matter directly to the American Legion and ask their aid.

Now we come to the last and perhaps the least important of the reasons why the government should not build hospitals for the veterans, viz: its effect upon the medical profession.

Why enter a private field already well filled and rendering good service to mankind? Is there any more reason why we should have state medicine than there is for the state to operate a coal mine, a railroad, a bank, or a chain store?

I would like to suggest, as has already been done by the article mentioned at the beginning of this paper, that when our State Medical Society meets next year, we send a delegation of representative doctors to meet with the American Legion of West Virginia, to explain our plans to them and ask their coöperation in this matter, or at least to plan with them some sort of a conference on this important question.

I admit that there will be many details to be worked out, but my contention is that the general principle here outlined is sound and beneficial, (1st) for the veterans, (2nd) for the citizens and taxpayers, and (3rd) for the physician himself; then if this plan be best for us all, why not let us all coöperate to the end that our government may recognize such a plan, and provide the necessary means of putting it into effect. Now welcoming a full and open discussion of the whole subject, I thank you for your indulgence.

A GOVERNOR LOOKS AT CHIROPRACTIC

Governor Buck of Delaware has returned to the legislature, without his approval, a bill to create a board of chiropractic examiners and to regulate the practice of chiropractic. His summarization of the reasons for his veto is so clear and terse that it should be read by the legislators and governors of every state that is threatened or already afflicted with this cult. His statement follows:

The purpose of the act, as I understand it, is to legalize the practice of chiropractic in this state. Practitioners of this cult are not recognized now. Do they profess to be doctors in the same sense of the term as is commonly understood to apply to men and women of the medical profession? Insofar as I am able to determine, there is not a recognized school in the country that includes in its curriculum a course in chiropractic. This fact in itself seems singularly significant.

Even to the lay mind the idea that all disease of whatever character is due to spinal displacements of a mild sort, and that cures of such ailments as tuberculosis, smallpox, diphtheria, scarlet fever and others can be effected by the manipulation and fingering of the spine is preposterous.

Before returning this bill to you I have satisfied myself that the training and education a chiropractor, or drugless healer, needs to practice his art does not fit him properly to advisedly treat the sick, inasmuch as he is not qualified to diagnose ailments nor recognize communicable diseases and to take measures to control them. He is, therefore, an opponent to the department of health.

Wherefore, it seems to me it would be inconsistent for the legislature to appropriate, as it will do, money for the state board of health, which board is trying to eradicate communicable disease, and at the same time legalize the practice of a cult which does not believe in the germ theory of a disease but does teach and believe that such diseases as scarlet fever, etc., are due to a distracted vertebra and the method to prevent and cure such disease is to see that everybody has a normal spine.—*Journal A.M.A.*

GRAY HAIR

One permanent wave a year will probably have no effect on the color of the hair. It does, however, cause the hair shafts to break, *Hygeia* informs a reader in answer to a question on gray hair.

CASE REPORTS

LABORATORY METHOD IN A CASE OF FALSE OR PSEUDO BLACK-TONGUE

By GEORGE W. COOPER, B.S., A.M., M.D.
Lieutenant, Junior Grade, Medical Corps, U. S. Navy

"In Vitro" studies were undertaken to determine the species of fungus present as the agent causing a clinical picture taken to be quite typical of a "true" or fungoid lingua nigra. This cultural work comprised the writer's Experiment No. 28 upon Case History No. 5 and recorded elsewhere (1).

The case history is that of a young adult, A. B., cited also in the above papers and not to be considered here; suffice it to know that the history is essentially without causative relationship to the condition and that the physical examination revealed a tongue-surface resembling the fur on the back of a black cat. This hairy appearance is, of course, due to the hypertrophied filiform papillae which become often markedly keratinized and may attain the length of a centimeter or slightly more. The circumvallate papillae may or may not be concurrently involved but are too far posterior and not sufficiently distributed to be a factor in the black, hairy "growth" or vicarious surface of the tongue. If the exciting chronic irritation is proven to be a mould (or bacteria) the cause is regarded a "true" black-tongue; if non-fungoid in nature it is said to be a "false" or "pseudo" black-tongue. In the former type the "hairs" on the tongue are usually more marked and more deeply pigmented (often black) than in the latter, since the irritational agent itself propagates in the superficial epithelial layers while chemical or the pH factors of buccal secretions act more superficially. Pigmentation varies in cases from shades of yellow to brown and black, being due to iron pigments in medicines or the degenerative blood from minute hemorrhages of the stomatitis which usually attends the condition. Food particles or the willful discolorations by the hysterical or the semulator have also to be considered.

Because of the marked hypertrophy of the filiform papillae and deep pigmentation (black) noted in this case, a diagnosis of "true" black-tongue was made and cultural procedures were begun to reveal any fungus or bacterium present in the tissues as a primary invader and etiologic agent. Since the cryptococcus linguae pilosae (Lucet) and the cryptococcus quasi-linguae pilosae (Cooper) besides several other moulds and bacteria have been reported (2) from such cases, the several types of Sabouraud's medium were utilized and plain agar used as a control.

Cultural Method.—Cultures from the patient's tongue on eight tubes of Sabouraud's and four tubes of plain agar were made. Two methods of taking specimens were employed as described in previous papers; first, by scraping the "hairs" and epicorium from the tongue; and, second, by pulling the "hairs" from the tongue.

These so-called "hairs" and scraped tissues were planted on four tubes each of media "C" (C.C.H.) and "D" (C.C.H.). Two tubes of plain agar were run as controls for bacterial contamination or primary invasions.

Before inoculation, each specimen planted upon Sabouraud's medium was placed in 60% alcohol to inhibit bacterial growth. One tube of each specimen-collection method was exposed five minutes and the other ten minutes to the action of 60% alcohol.

All media was of pH 7.3 for reasons demonstrated in previous experiments (1).

Scraping-Epicorium Method

		5 Min.	10 Min.
Medium C,	24 hrs.	No growth	No growth
(C.C.H.)	48 hrs.	No growth	No growth
	72 hrs.	No growth	No growth
	3 wks.	No growth	No growth
Medium D,	24 hrs.	No growth	No growth
(C.C.H.)	48 hrs.	No growth	No growth

		5 Min.	10 Min.
	72 hrs.....	No growth	No growth
	3 wks.....	No growth	No growth
Plain Agar	24 hrs.....	No growth	No growth
	48 hrs.....	No growth	No growth
	72 hrs.....	No growth	No growth
	3 wks.....	No growth	No growth

Pulling-"Hairs" Method

		5 Min.	10 Min.
Medium C,	24 hrs.....	No growth	No growth
(C.C.H.)	48 hrs.....	No growth	No growth
	72 hrs.....	No growth	No growth
	3 wks.....	No growth	No growth
Medium D,	24 hrs.....	No growth	No growth
(C.C.H.)	48 hrs.....	No growth	No growth
	72 hrs.....	No growth	No growth
	3 wks.....	No growth	No growth
Plain Agar	24 hrs.....	No growth	No growth
	48 hrs.....	No growth	No growth
	72 hrs.....	No growth	No growth
	3 wks.....	No growth	No growth

NOTE—All cultures in this experiment were found also to be free of any type of contamination. Medium C. (C.C.H.) was Sabouraud's French maltose formula and D. (C.C.H.) the French glucose agar.

Conclusions.—1. No fungus or bacterium was isolated on any of the media or by any of the methods employed in this experiment.

2. The case studied is concluded to be of the non-fungoid and non-bacterial type and the final diagnosis is: Pseudo-lingua nigra, or the "false" type of black-tongue.

3. Degree of hypertrophy and pigmentation of the filiform papallae is not a reliable criterion for the differentiation in clinical diagnosis of a "true" or infectious black-tongue from cases of the commoner "pseudo" type.

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WHITE HOUSE CONFERENCE

The report of the subcommittee on Orthopedics and Body Mechanics of the White House Conference on Child Health and Protection, and the report of the subcommittee on Psychology and Psychiatry of the White House Conference on Child Health and Protection have recently been published by the Century company.

The first is a report of a searching investigation made for the White House Conference on Child Health and Protection into the relation of body mechanics and posture to the health and well-being of children.

Body mechanics is defined by the subcommittee which conducted the investigation as "the mechanical correlation of the various systems of the body with special reference to the skeletal, muscular, and visceral systems."

"There is positive evidence," the report says, "to prove that not less than two-thirds of the young children of the United States exhibit faulty body mechanics," and that this condition is likely to continue into adult life. The evidence gathered shows that improvement in body mechanics is associated with improvement in health and efficiency.

An important distinction is made in the report between training in the principles of good body mechanics and training in various physical exercises.

The detailed recommendations and the suggested program of corrective exercises presented here will be of value to all those concerned with the care and training of children.

The second report considers the important question; "Should the medical practitioner attempt to give advice when difficulties threaten the satisfactory development of personality of a child under his care?"

Although the report does not urge all doctors to attempt to become expert in the fields of psychology and psychiatry, it states the opinion that adequate physical care of the child can not be given without atttention to whatever intellectual and emotional difficulties may be present, and concludes that when trouble arises and the individual child is in distress a well-informed and alert physician is the obvious adviser. "Unwillingness of doctors at large to acquire the ability to deal wisely with problems involving personality of the child," says the report, "may lead to transfer of this field to formal organizations or to individuals without medical experience. Such a solution will inevitably diminish both prestige of the private practitioner of medicine and the interest of his job."

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

PATHOLOGY OF PULMONARY TUBERCULOSIS

The pathology of pulmonary tuberculosis is difficult to understand because a complex terminology has been created to "pigeonhole" certain gross appearances of the tuberculous lung. Our mental pictures of tuberculosis pathology would be clarified were we to disregard the terminology in vogue at present and in its place interpret the whole process on the basis of inflammation and repair. All stages from acute inflammation to advanced repair may be found in different portions of one tuberculous focus. Such are the conclusions of Medlar and Sasano, who studied the pathology of pulmonary tuberculosis in successive stages in animals. Extracts from the article follow.

Tuberculosis is often set aside as a disease of distinctive pathology. It is probably true that there is some chemical specificity in tuberculous infection but morphologically the lesions represent biological reactions corresponding to those of inflammation and repair observed in infectious diseases generally. Under certain conditions, for example, tubercle bacilli may incite abscess formation and under other conditions tubercle formation. Such terms as "proliferative type," "exudative type," "caseous pneumonia," "chronic fibroid phthisis," cause confusion. They do not represent "specific" lesions, but merely stages, combinations of lesions, or appearances in the course of pathological development.

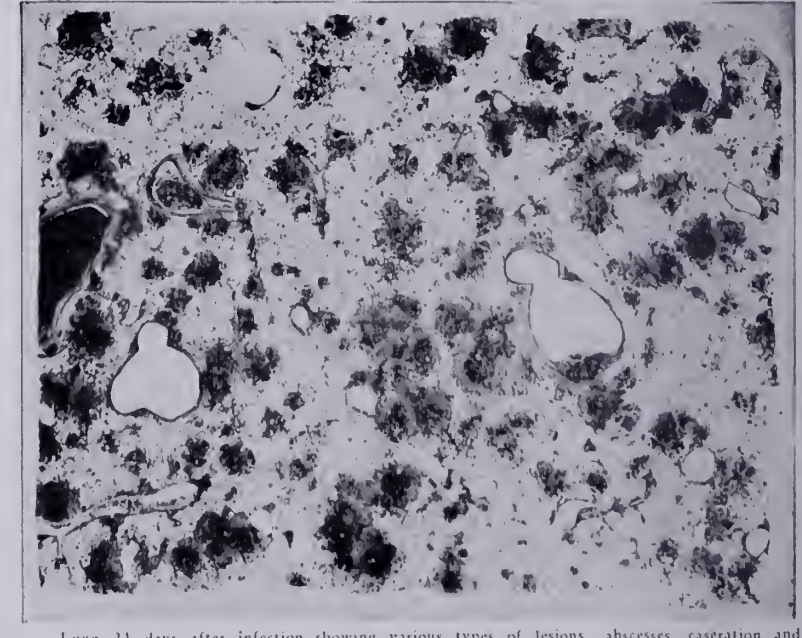
The authors studied pathological changes produced in rabbits by a very virulent strain of bovine tubercle bacillus, whose characteristics were known by previous studies. By varying the dosage of bacilli it was possible to control in a large measure the number of tuberculous lesions. As nearly as possible all other factors were controlled.

Pulmonary tuberculosis in the rabbit differs in some respects from the disease in human beings, but doubtless the fundamental pathological principles are the same in both species. Probably the chief reason for the differences observed in the rabbit and man, is that in man previous contact with tubercle bacilli has developed some resistance to the infection, whereas the experimental animals experienced their first contact with the bacilli on the day they were inoculated. Another factor is that the rabbits were given a single injection, which contained far more tubercle bacilli than any person would inhale or ingest at a single exposure to infection.

Forty rabbits were uniformly inoculated and killed at different periods. Numerous blocks of tissue were then studied microscopically.

LESIONS FOUND AT AUTOPSY.—The lesions found at various stages (illustrated and more fully described in the original article) were as follows:

After 48 Hours.—No gross lesions observed until after fixation. Then the organs were seen to be uniformly seeded with minute grayish spots which proved to be alveolar walls, congested and containing cellular exudate, consisting of mononuclear leucocytes and neutrophiles. An occasional mononuclear leucocyte or neutrophile was present in ad-



Lung 21 days after infection showing various types of lesions abscesses, caseration and recent lesions due to "spread" by peripheral extension and by inhalation of exudate from ruptured abscesses.

jacent alveolar spaces. Tubercle bacilli difficult to find.

After 6 Days.—Lesions easily recognized in fresh specimen. They were discrete with normal intervening lung tissue and larger than those of 48-hour lung. Lesions were the result of increased congestion and of greater accumulation of leucocytes and neutrophiles. Alveolar walls were thickened. Adjacent alveoli were often filled with exudate of same cell types as in alveolar walls. No giant cells. No caseation. Tubercle bacilli more numerous.

After 12 Days.—Lesions were larger. Examination showed two types with gradations from one into the other:

(a) Typical mononuclear tubercles, composed wholly of mononuclear leucocytes. Adjacent alveoli contained from a few to many cells of this type. Tubercle bacilli present in small numbers.

(b) Abscess composed of neutrophiles in central portion and mixture of neutrophiles and mononuclear leucocytes in periphery. Adjacent alveoli often filled with mixture of neutrophiles and mononuclears. Bacilli numerous. The lung at this stage had all gradations of lesions from (a) to (b). Tubercle bacilli became more numerous in the foci as these approached abscess type. Several abscesses showed a beginning erosion of bronchial or terminal bronchiole walls, with slight amount of inflammatory mass lying free. In the free exudate tubercle bacilli were easily found. Lung tissue normal except for lesions described. No caseation, no giant cells.

After 21 Days.—Marked increase in size of discrete tuberculous lesions. Abscesses much larger, some undergoing caseation, others had eroded alveolar or bronchial walls. Contents of these abscesses were discharged into alveolar spaces or into bronchi or bronchioles. Lung parenchyma adjacent to lesions involved in the enlarging inflammatory process. Mononuclear tubercles rarely seen. No giant cells. Tubercle bacilli abundant in all lesions.

For the first time, definite extension of tuberculous process into previously normal tissue was seen. This extension had occurred in two ways:

(a) Focal lesions had enlarged and adjacent parenchyma had become involved, but major portion of lung tissue uninvolved.

(b) Extension had occurred as a result of rupture of the tuberculous abscess into bronchi or bronchioles. Inhalation of contents of ruptured abscesses caused involvement of new areas of lung. These were separate from the older lesions and were composed of small groups of alveoli filled with exudate. Alveolar walls surrounding these small foci appeared normal. New areas contained many tubercle bacilli.

From this stage on there occurred a continuation of the ulcerative process until eventually the lung became a solid mass of tuberculous tissue, and many of the lungs showed pyramidal areas of consolidation at their periphery, and at the apex of the consolidated mass, a tuberculous ulcer in a bronchus with considerable bacillus-laden exudate within its lumen.

"CONCLUSIONS.—1. Massive pulmonary tuberculosis in the rabbit is dependent upon the rupture of pulmonary tuberculous abscesses into the bronchial tree and inhalation of the contents of these abscesses into the previous uninvolved lung tissue. It seems plausible that this is also the method of extensive dissemination of tuberculosis within the human lung.

2. The pathology of pulmonary tuberculosis is essentially a process of inflammation and repair. Interpreted upon the basis of inflammation and repair the complex pathology becomes greatly simplified and more easily understood.

3. The complex terminology used to describe the bizarre pathology of pulmonary tuberculosis is unnecessary and confusing.

4. The term 'specific' when used in connection with tuberculous lesions should be restricted to denote a biochemical, not a morphological specificity."

An Interpretation of the Pathology of Pulmonary Tuberculosis, E. M. Medlar and K. T. Sasano, Am. Rev. of Tuberc., Dec., 1931.

SPEED AND ENDURANCE

In every phase of daily life during the early part of the twentieth century the object seemingly has been to go fast, rather than to last long. The spirit of competition has not only shortened the life of material wealth but of man. The following quotation is taken from a recent issue of the bulletin of the Milwaukee Health Department:

"Every year in this country thousands of men die in the prime of life because they were more anxious to work fast than to live long. Too many men apparently prefer to die young, leaving a large estate, to living ten or twenty years longer with their families in less affluence.

"We are now drawing near to the time of the year when diseases attacking tired-out business men will be on the increase. Very few individuals can have both speed and endurance. Most of us must choose between the two."—*Hygeia,* Feb., 1932.

PRESIDENT'S PAGE

THERE are at present 26,000 beds available in veterans' hospitals. It is estimated that it will take 130,000 beds to meet the needs. It will cost approximately $300,000,000 to erect these. A recent survey showed more than 200,000 beds unoccupied in civilian hospitals. While this gigantic building program proceeds, many veterans must of necessity suffer. It is well known that there are far too many civilian hospitals. Most of them are in such a poor financial condition that they can hardly exist. Yet the government continues to build more.

Our plight is not unlike that of the poor, harassed farmer, who is told by government officials that the reason for such low prices is overproduction, and he is urged to produce less. Each year, however, he is forced to contribute in taxes to the many millions that go towards reclaiming waste lands and converting them into fertile farms for growing more. The dirt farmer, always at the mercy of the elements, can not cope with these irrigated farms, nor will the private hospitals be able to compete with these government owned ones being carried by the tax payers.

I wonder if you ever considered that each year many veterans are passing to the Great Beyond. The list is naturally growing smaller. After the present generation has passed, will it become necessary in our democratic country to have another war to keep these institutions going, as it has been done in some countries in the past, to relieve congestion of man power.

We, as a profession, have great sympathy for the veteran; many of us are veterans ourselves. We, who have served, well know that these men have never in the past received the best treatment available and will not in the future from veterans' hospitals, which have most of the bad features of state medicine, as well as some of the objectionable features of list practice. These men should have the right of choice of physician or hospital when ill. If money used in construction was used for treatment in local hospitals, all of these unfortunates could receive prompt attention, when acutely ill, without the hazard of a long journey and much delay, the result of red tape. This problem is being discussed by the American Medical Association with members of national headquarters of the American Legion, and it is hoped that something can be worked out more satisfactory than present-day methods.

We, who are veterans, should belong to our local posts of the Legion. We, as a profession, can do a great good for these men, as well as ourselves, by working with the Legion and getting our local posts to send resolutions of protest against the present system.

Albert H. Hoge

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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DRIFTING

We are wondering if the medical profession fully realizes how rapidly we are drifting into a veritable maelstrom of political introgue destined to destroy the very foundation of medical science. Legislative bodies, in their enthusias mof promulgating medical research an dpreventive medicine, have undertaken to carry on the practice of medicine and surgery under state and federal control.

Legislative bodies seem to disregard the fact that discoveries in the research laboratories would be negative but for their confirmation by internists and surgeons, whose experience qualifies them to use remedies with primary regard to the human equation in any given case.

We would invite you to compare individual care of patients in any state or federal hospital with that provided in a private hospital where the first thought is the individual himself. We suggest and urge that you read the two articles in this issue of the JOURNAL on the subject of veteran hospitalization. Then, after you read the articles, write to your representative in Congress and have your veteran friends do the same thing.

Try to convince them that you would prefer to be operated upon by a surgeon rather than a politician.

FAIRMONT BROADCASTS

In coöperation with the Marion County Medical Society, the Auxiliary there has recently inaugurated a series of radio broadcasts over station WMMN which have become unusually popular. The radio talks pertain to some phase of medical practice and are presented each Tuesday and Thursday evening at 6:45 p. m.

Much of the material used in the radio talks is submitted by the national Auxiliary and then worked over to apply to this state. This is done by a committee of doctors from the Marion County Medical Society, who are in charge of the feature. The name of the doctor who makes the broadcast is not given, the only announcement being that the program is sponsored by the Woman's Auxiliary to the West Virginia State Medical Association and given by a member of the Marion County Medical Society and the American Medical Association.

The JOURNAL wishes to commend both the Marion County Auxiliary and the state organization for this splendid piece of work. The possibilities for service in this new field of activity are almost without limit. We extend our congratulations and our best wishes for the continued success of the enterprise.

THE DRUG STORE PROBLEM

The average drug store, since the turn of the present century, has been transformed from an apothecary's shop into a general merchandising establishment. This is the opinion that is gathered from a recent survey of medical facilities in San Joaquin County, California, by the Committee on the Costs of Medical Care.

The city of Stockton is located in San Joaquin County. In Stockton there are 31 drug stores. In this number, 28 average less than 1,000 prescriptions a year. A few average less than five prescriptions a week. Apparently the dispensing of prescriptions has become a minor service. The sale of drugs and other medical supplies makes up only 40 per cent of the gross sales of all the drug stores in Stockton. Prescriptions contribute only 10 per cent to the total gross sales.

A study of the survey made by the Committee on the Costs of Medical Care indicates that prescriptions contain a far greater per-

centage of proprietry ingredients now than 20 years ago. Perhaps this is partly due to the detail men of the larger pharmaceutical houses who make office to office calls for the purpose of promoting and explaining their products to the medical profession.

The question of the "detail man" is rapidly becoming a real problem to the busy city practitioner. Granting that the detail men serve a most useful purpose, (as most of them do,) the fact remains that the busy doctor has neither the time nor the inclination to listen to all of these pharmaceutical representatives who come to his office. He is usually faced with the problem of either hearing them all or excluding them all. There seems to be no practical method, at first glance, whereby a few detail men can be received and the balance turned away.

At the recent conference of county society secretaries of the West Virginia State Medical Association, such a method was suggested for the busy doctor. The secretary of one of the largest county societies in the state advanced the idea, as a method of discrimination, that the busy practitioner could solve this problem by receiving only the representatives of pharmaceutical houses that used the advertising columns of this JOURNAL.

We are naturally interested in this suggestion, particularly because the JOURNAL belongs to the doctors of West Virginia. We have always felt that the doctors should give preference, whenever possible, to the companies and institutions that support the JOURNAL. Therefore we commend this new idea, because of the possibility of killing two birds with one stone. If the idea is practicable, (and we think it is,) it will enable the busy doctor to solve his problem of discrimination and, at the same time, provide a means of properly favoring and supporting the JOURNAL advertisers.

One thing the doctors can all be sure of. They *know* the products advertised in their JOURNAL have been submitted and passed by the Council on Pharmacy of the American Medical Association.

COUNTY SOCIETY NEWS

PARKERSBURG ACADEMY

Dr. R. H. Boice, Parkersburg, was elected president of the Academy for 1932 at the regular meeting on December 3, which was held at the Camden-Clark Hospital. Dr. Boice has succeeded Dr. Paul Starkey of Ravenswood, who served during 1931.

Other officers elected at the December meeting were Dr. R. H. Wharton, vice-president, and Dr. John T. Goff, secretary-treasurer. This was strictly a business session and there was no scientific program.

The January 14 meeting of the Academy was held at the St. Josephs Hospital with Dr. Robert Widmeyer as the scientific essayist. Dr. Widmeyer presented an interesting paper on "Acute Lobar Pneumonia and Its Complications." There was a wide discussion.

At the January 14 meeting, Dr. Boice appointed the various committees to serve in arranging plans and details for the coming state meeting next June. Dr. G. P. Jeffers was appointed as general chairman in charge of all the committees. Chairmen of the various sub-committees were Dr. O. D. Barker, banquet and dance; Dr. B. O. Robinson, reception and welcome; Dr. O. M. Fisher and Dr. Rolla Camden, golf tournament; and Dr. R. H. Wharton, parking and decorating.

JOHN T. GOFF, Secretary.

CABELL COUNTY

The regular meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of February 11, with a good attendance. The meeting got under way at 8:30 o'clock, p. m., and the subject for the evening was "Gonorrhea in the Male." The essayists were Dr. Edward Matthews, Dr. Don Kessler, and Dr. Ivan Harwood. This was a very interesting program.

WILLIAM W. STRANGE, Secretary.

KANAWHA COUNTY

A highly interesting and entertaining meeting of the Kanawha Medical Society was held in the Public Library auditorium, Charleston, on the evening of February 9 with 65 members and visitors in attendance. Three new members of the society were elected at this meeting. They were Dr. E.

A. Litzinger and Dr. V. E. Holcombe, Charleston, and Dr. W. L. Barbour, Whitesville.

The by-laws of the society were amended to change the meeting date from the first to the second Tuesday in each month and to create a program committee of seven members, including the president and secretary. Several other minor changes were incorporated in the resolution, which was presented by a special committee.

Eight different members of the society took part in the scientific program, which was as follows:

Dr. H. H. Howell, Madison, spoke in memory of Dr. Carter and also described a method for determining fractures without x-ray.

Dr. W. A. MacMillan, Charleston, recalled the virtues of several old-time medical leaders of Kanawha County.

Dr. B. V. Blagg, South Charleston, described an ingenious method of examining abdominal tumors.

Dr. M. S. Duling, Charleston, described the use of intra-peritoneal mercurochrome in pelvic infections.

Dr. A. W. Milhoan, Nitro, described his remarkable method for treating chronic eczema.

Dr. Dan Barber, Owens, described his method of managing childbirth in homes of very poor people.

Dr. C. N. Brown, Swandale, described his use of chloroform as a local remedy.

Dr. Hugh B. Robins, Charleston, displayed an old medical kit dating back to 1842 which was used by his great grandfather, and described its contents.

M. F. Petersen, Secretary.

LOGAN COUNTY

An interesting and well attended meeting of the Logan County Medical Society was held at the Hatfield-Lawson Hospital, Logan, on the evening of February 17 with nineteen members and three visitors in attendance. Following a short business session, the scientific program was called for.

The scientific program was opened by Dr. B. D. Smith, Omar, who read a posthumous paper by his associate, Dr. E. R. Logan, on "Endocervicitis." Dr. Logan died on January 13, 1932, and the paper was finished shortly before his death. Endocervicitis was the cause of Dr. Logan's death and he wrote from the standpoint of both the doctor and the patient.

Dr. Logan's paper was followed by an excellent presentation by Dr. G. H. Barksdale, Charleston, on the subject, "Some Practical Aspects of Heart Disease." This paper was followed by a round-table discussion which was closed by the essayist. The program was concluded by Dr. Fred E. Brammer, Dehue, who showed two hearts which he had recently obtained at autopsy.

Mr. Joe W. Savage, state secretary, was present at this meeting and made a short talk on organized medicine in West Virginia.

After the meeting adjourned, refreshments and coffee were served the members in the hospital dining room.

Fred E. Brammer, Secretary.

RALEIGH COUNTY

New officers of the Raleigh County Medical Society for 1932, who were elected at the December meeting, are as follows: Dr. E. H. Hedrick, Beckley, president; Dr. E. W. Wood, Beckley, first vice-president; Dr. T. F. Garrett, Sprague, second vice-president; Dr. M. M. Ralsten, Beckley, secretary-treasurer. The new board of censors consists of Dr. E. S. Dupuy and Dr. Robert Wriston, Beckley, and Dr. George W. Johnson, McAlpin.

At this meeting there was some discussion as to the possibility of the society purchasing an x-ray film view box and a lantern for the projection of slides.

The first meeting of the new year was called to order by Dr. Hedrick at 8:30 o'clock on the evening of January 21 at Beckley with eighteen members and six visitors in attendance. At this meeting, Dr. James L. Hager, Winding Gulf, was elected to membership. The election of Dr. U. G. Cook, Beckley, to honorary membership in the West Virginia State Medical Association was also reported.

The scientific program was presented by Dr. A. P. Hudgins, Hinton, and Dr. L. E. Shrewsbury, Beckley. Dr. Hudgins read a very interesting and instructive paper on "Headache and Its Significance." This was freely discussed by Drs. W. L. Cook, J. H. Greene, W. W. Hume, J. O. Bailiff, and D. H. Hoke. Dr. Shrewsbury read an excellently prepared case report on "Urography, Using Uroselectan,'" in which he covered his subject very clearly and concisely; concluding by demonstrating results with x-ray films.

M. M. Ralsten, Secretary.

MARION COUNTY

The Marion County Medical Society held a very interesting meeting at the Fairmont Hotel on the evening of January 29, with Dr. Paul B. Steele,

Pittsburgh, as the guest speaker. Dr. Steele gave an instructive paper on "Infections of the Joints," and in the discussion he outlined his treatment of fractures of the shaft of the femur. A fine attendance turned out for this meeting and there were also a number of Morgantown and Clarksburg doctors present.

A very interesting meeting of the Marion County Medical Society was held at the Fairmont Hotel on the evening of February 23 with a fine attendance. Dinner was served at 6 o'clock p. m., and this was followed by the scientific program.

The essayist of the evening was Dr. L. Rush Lambert, Fairmont, who presented a paper on "The Cause of Cardiac Pain." This was liberally discussed. The program was concluded with a moving picture on "Peptic Ulcer."

CHARLES T. FRANCIS, Secretary.

MERCER COUNTY

There was a meeting of the Mercer County Medical Society on February 18, 1932, in the Municipal Building, Bluefield, with fifteen members and five visitors present.

Miss Anna Boggs, the county Home Agent, gave a short talk on the health of the 4-H Clubs, and requested our coöperation in the examination of these boys and girls. This was discussed and it was decided the best way to handle this was to let the family physicians examine them, owing to the widely separated locations of the clubs in this county.

We then had the following Sympodium on Gastric and Duodenal Ulcer: Symptoms, by Dr. W. M. Harloe; Physical Diagnosis, by Dr. R. O. Rogers; Laboratory and X-ray Diagnosis, by Dr. C. J. Reynolds; Surgical Treatment, by Dr. W. H. St. Clair; Medical Treatment, by Dr. E. W. Horton, and Morbidity and Mortality, by Dr. M. W. Sinclair.

Discussion was opened by Dr. R. H. Edwards, Welch; Dr. M. R. Snodgrass, Gastonia, N. C., and several members present.

It was decided to have the next meeting in Princeton.

R. R. STUART, Secretary.

MONONGALIA COUNTY

Dr. Robert C. Farrier of Morgantown, a former member of the Louisiana State Medical Society, was the scientific essayist at the February 2 meeting of the Monongalia County Medical Society which was held in the junior high school library, Morgantown. His subject was "Immunization Vaccines." This was a most interesting address and there was a good attendance.

G. R. MAXWELL, Secretary.

OHIO COUNTY

Dr. W. Wayne Babcock, Professor of Surgery at Temple University, Philadelphia, was the scientific essayist at the February 5 meeting of the Ohio County Medical Society, which was held in the Ohio Valley General Hospital, Wheeling. Dr. Babcock's subject was, "Newer Methods on the Surgical Treatment of Certain Diseases of the Heart and Great Blood Vessels." Discussion was opened by Dr. R. J. Reed, Dr. R. B. Bailey, and Dr. E. S. Phillips.

Dr. J. T. M. Finney, Baltimore, addressed the society at the February 19 meeting, which was also held at the Ohio Valley General Hospital. Dr. Finney's paper was on the subject, "The Simulation of Abdominal Conditions by Various Affections of Extra-Abdominal Origin." The discussion was opened by Dr. E. M. Phillips, Dr. R. J. Armbrecht, and Dr. George L. Vieweg.

H. C. HARPFER, Secretary.

MEETING IN OHIO

Dr. W. M. Sheppe of the Wheeling Clinic, Wheeling, and Dr. F. C. Hodges, Huntington, appeared recently on the program of the Ohio Society of Clinical Laboratory Diagnosis at the eleventh annual session held in Columbus. The meeting took place on January 23, 1932.

Dr. Sheppe's paper was on "Diabetic Neuritis with Paralysis." Dr. Hodges presented his paper on "Nephritis and Nephrosis." Ohio members on the program included Dr. R. S. Fidler, Springfield; Dr. Jonathan Forman, Columbus; Dr. Thomas L. Ramsey, Toledo; Dr. Walter Simpson, Dayton; Dr. Mortimer Herzberg, Cincinnati; and Dr. Charles A. Doan, Ohio State University, Columbus.

SUMMERS COUNTY

The regular meeting of the Summers County Medical Society was held in the parlor of the Hotel McCrum, Hinton, at 1 o'clock on February 22, 1932. Dr. D. W. Ritter of the Hinton Hospital staff made application for membership and was accepted to membership.

The chief order of business was the annual election of officers. Dr. J. T. Johnson of Meadow Creek was elected president to succeed Dr. Paul A. Ford of Talcott. Dr. A. P. Hudgins was re-elected secretary-treasurer. A number of other matters of business to the society were discussed.

A. P. Hudgins, Secretary.

HOSPITAL TAX LAW

The new statute passed by the 1931 legislature allowing tax credit to hospitals for treatment of charity cases was recently interpreted in an opinion handed down from the office of Attorney-General Howard B. Lee. The opinion held that patients must be entered by one of the proper county officials before the tax credit could be allowed. The opinion was requested by J. E. Dillon, Jr., prosecuting attorney of Fayette County.

The statute, according to the opinion, does not make provision for emergency cases unless such emergency cases are approved by a proper county official prior to admittance. The officer entering the patient is charged with the duty of auditing the accounts of the hospital and he should not approve such accounts unless they are found correct.

The opinion of the Attorney General's office closely follows the actual provisions of the new statute and leaves little if any room for doubt. Apparently claims have been filed under this new law which had not been approved by a proper county official. This seems to be the reason why the opinion was asked for. Before presenting any claims, all hospital managers should read the law carefully in order to avoid mistakes of this kind. A careful perusal of the law will leave no question as to its provisions and limitations.

There has been some question raised concerning the constitutionality of the new statute. Apparently the recent opinion from the office of the Attorney General will dispel all doubts along that line. If this new law is unconstitutional, the opinions would unquestionably have said so.

GENERAL NEWS

SOCIAL INSURANCE

By Dr. Edward H. Ochsner, M.D.
Cleveland, Ohio

One of the very first questions that naturally arises is: Have any of our governmental agencies so conducted themselves in the past as to make is reasonably safe for us to entrust so stupendous a function as universal social insurance to any branch or department? I maintain that most of our local as well as state governments are inefficient or corrupt, and some are both.

Let any one who doubts the correctness of this statement spend a little time to look around with a critical eye and observe how most local governments, the various departments of the state in which he lives, and the departments of the federal government are conducted, and I am convinced that he will find more inefficiency than he has ever dreamed could exist. If he does not personally know of corruption and inefficiency in government, let him but scan one single daily newspaper regularly for a month in order to be convinced. And what else can one expect who is at all familiar with politics as it has been played and managed in these United States in the year 1931—the manner in which most men secure their nominations and later their elections, and to whom they are beholden when they take office?

We have all seen the statement repeatedly in the public press, but have never seen it successfully refuted, that in many of the political subdivisions of our country only sixty per cent of the taxes collected are effectively spent, the remainder being frittered away, wasted or stolen. This inefficiency and corruption is due to many causes of which some of the more important are:

The fact that so far no formula has been discovered according to which the most efficient, honest, industrious and worthy members of the community can be secured for public office. Nor has there been any method devised whereby spoils, politics, favoritism, pull, nepotism, waste and graft can be eliminated with even a reasonable degree of certainty. The individual who could solve these two problems would not only be the greatest benefactor of the human race but the wisest man the world has so far produced. Plato tried to solve this problem twenty-three centuries ago when he wrote his "Republic." For a time he actually thought he

had found a solution. He prevailed upon the King of Syracuse to adopt his plan and put it into operation. The king tried it for a while, tired of it and sold Plato into slavery. Some good friends ransomed him. After that he was not so sure that his scheme would work in practice. Things are not much different today than they were in the time of Plato. Only worse. Worse because of the increase in population resulting in larger governmental units, the enormous increase in the number of those exercising the franchise, the increase in the percentage number of ignorant voters and the ever increasing astuteness and finesse of our practical politicians.

Inefficiency and corruption are so common that we have become callous to it. We are annoyed by it, we grumble and complain mildly about it, we pay our ever mounting taxes if we have anything with which to pay and 'let it go at that.' It almost seems as though we humans had adopted David Harum's dog philosophy and were applying it to ourselves. He said:

"A certain amount of fleas is good for a dog, it keeps him from brooding on being a dog."

The best illustration of governmental muddling in general is to be found in the mess most governments of the world have made of themselves during the past twenty years. As examples, we need but call attention to the virtual bankruptcy of Germany and of Austria, the maladministration in Russia, the revolutions in Spain, China, Central and South America, the dictatorships in Poland and Italy and when we come nearer home, the general lawlessness in the United States with its murders and kidnapping for ransom; conditions in the city of New York as disclosed by the Seabury investigation; the virtual bankruptcy of Chicago and Philadelphia, and the near bankruptcy of many other governmental units.

Let us study conditions in our own country a little more in detail in order to determine whether it would be wise or even safe to entrust the federal, state and local government or any one of them, with supervision over the private lives of its citizens. (This phase of the problem will be taken up more in detail in the future installments.)

JOHN PHILLIPS AWARD

The American College of Physicians recently selected Dr. O. T. Avery of the Hospital of the Rockefeller Institute of New York City as the recipient of the John Phillips Memorial Prize for 1932.

This prize, an annual award by the College in the sum of $1,500, is given to perpetuate in the College the memory of Dr. John Phillips of Cleveland, a man of outstanding accomplishments as instigator, teacher and physician, for many years a member of the Board of Regents of the American College of Physicians, who gave his life in saving others on the occasion of the Cleveland Clinic disaster on May 15, 1929.

The committee on the John Phillips Memorial Prize, through its chairman, Dr. James H. Means of Boston, recommends the award, "To Dr. O. T. Avery for the series of studies upon the Pneumococcus in which he has played a leading rôle, beginning with the discovery of the type-specific soluble polysacchrides and culminating in the discovery of a bacterium producing an enzyme which splits the polysacchrides of Type 3 Pneumococcus in vitro, thus rendering it susceptible to phagocytosis and thereby protecting the animals infected with it."

The sixteenth annual clinical session of the College will be held in San Francisco during the week of April 4, 1932. Dr. Avery will deliver an address, "The Rôle of Specific Carbohydrates in Penumococcus Infection and Immunity," at the convocation on Wednesday evening, April 6. At the conclusion of Dr. Avery's address, the prize will be presented to him by Dr. S. Marx White of Minneapolis, president of the College.

The distinction of this award is enhanced by the fact that although it was available the previous year, it was not possible to decide on a suitable recipient. This is, therefore, the first award made. It is the hope of the officers and members of the College that this annual prize in memory of a distinguished colleague may, by recognizing merit, be a continuing stimulus to investigators in those subjects having a direct bearing on the advancement of clinical science.

OBSTETRICS-GYNECOLOGY EXAMS

The next written examination of the American Board of Obstetrics and Gynecology will be held in nineteen different cities of the United States and Canada at 2 p. m., on Saturday, March 26, 1932. The general, oral, and clinical examination will be held in New Orleans on Tuesday, May 10, 1932, immediately preceding the meeting of the American Medical Association. Reduced railroad fares will be available. For detailed information and application blanks apply to the Secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

RESEARCH AWARD OFFERED

Meade Johnson and Company has announced an award of $15,000 to be given to the investigator or group of investigators producing the most conclusive research on the vitamin A requirements of human beings.

Candidates for the reward must be physicians or biochemists, residents of the United States or Canada who are not in the employ of any commercial house. Manuscripts must be accepted for publication before December 31, 1934, by a recognized scientific journal. Investigations shall be essentially clinical in nature, although animal experimentation may be employed secondarily.

The Committee on Award will consist of eminent authorities who are not connected with Mead Johnson and Company, the names of whom will be announced later. There are no restrictions regarding the source of vitamin A employed in these investigations.

EARLY DIAGNOSIS CAMPAIGN

The fiftieth anniversary of Robert Koch's announcement of his discovery of the tubercle bacillus falls on March 24. This date, coming a week before the opening of the nation-wide Early Diagnosis Campaign, provides a fitting introduction for it. It affords medical societies and civic organizations an opportunity to focus the attention of the public on Koch's research as the foundation of all tuberculosis work. Special material and suggestions for programs can be obtained from the West Virginia Tuberculosis and Health Association, 910 Quarrier Street, Charleston, West Virginia.

Koch proved that every case of tuberculosis is caused by the tubercle bacillus and that "every case comes from another," the slogan of the 1932 campaign. The National Tuberculosis Association in coöperation with its affiliated state associations is planning to commemorate the anniversary on a national scale through newspapers, the movies and the radio.

A special translation of Koch's original paper, published for the first time in English, is now being printed by the National Tuberculosis Association for distribution in celebration of the discovery. This paper has been translated by Dr. and Mrs. Max Pinner and will be published in the March number of the *American Review of Tuberculosis*. It will then be issued in book form and a copy will be presented to every senior student in every Grade A medical college in the United States.

The March issue of the *Journal of Outdoor Life*, published by the National Tuberculosis Association, will contain a number of articles relating to Koch's epoch-making discovery. There will be an editorial by Dr. Edward R. Baldwin and papers by Dr. H. S. Willis, Dr. L. Van Es, and Dr. A. K. Krause.

THE PARKERSBURG MEETING

Plans for the coming meeting of the West Virginia State Medical Association at Parkersburg, to be held next June 21-23, 1932, are rapidly taking form and a tentative outline of the convention arrangements has already been worked out. With one exception, the Parkersburg meeting will follow the same general schedule that has been adhered to for the past five years. The exception involves the four sectional meetings, which will be held on the last morning of the convention. Heretofore the sectional meetings have been held on the afternoon of the second day of the annual meetings.

The scientific program for the Parkersburg session has been practically completed by the committee in charge of Dr. E. L. Armbrecht, Wheeling. Out-of-state essayists who have accepted invitations to read papers include Dr. Mont Reid and Dr. Graeme Mitchell, Cincinnati; Dr. B. H. Nichols, Cleveland; Dr. E. B. Freeman, Baltimore; Dr. Samuel Gant, New York City; Dr. Henry H. Kessler, Newark, New Jersey; Dr. Dean Lewis, Baltimore; Dr. W. F. Zinn, Baltimore; Dr. B. W. Fishback, Cincinnati; and Dr. J. A. Bargen, Rochester, Minnesota.

Acceptances have also been received from most of the state men on the program but this list of speakers is not yet ready to make public. Among the features of the meeting will be the President's Annual Address, which will be given by Dr. A. H. Hoge on the opening evening of the convention. The annual banquet, which is always one of the outstanding convention events, will be held on the evening of June 22 with Dr. Gant as the chief speaker. He will talk on a non-scientific subject.

Plans are being made by the Parkersburg doctors to hold the annual convention dance on one of the large Ohio River steamers, which will be especially chartered for the occasion. Dr. G. D. Jeffers, Parkersburg, who is the general convention chairman of the local committee, is looking after this arrangement.

Other committees that will function in connection with the Parkersburg meeting were recently appointed by Dr. R. H. Boice, president of the

Parkersburg society. These sub-committees are as follows: Dr. O. D. Barker, banquet and dance; Dr. M. O. Fisher, golf tournament; Dr. B. O. Robinson, reception and welcome; and Dr. R. H. Wharton, parking and decorating. These sub-committee chairmen constitute the general convention committee under Dr. Jeffers.

DR. BLOSS APPOINTED

The appointment of Dr. James R. Bloss, Huntington, as a member of the council of the Southern Medical Association has recently been announced by Dr. Lewis Jefferson Moorman, Oklahoma City, President. Dr. Bloss succeeds Dr. Walter E. Vest for a term of three years. Dr. Vest has just completed his second term as a member of the council of the Southern Medical Association and is therefore not eligible for reappointment.

The selection of Dr. Bloss for this important office will no doubt be interesting news to the readers of the JOURNAL. He has been active and interested in the affairs of the Southern Medical Association for many years and is well equipped to take Dr. Vest's place. Dr. Vest built up a brilliant record as councillor and as chairman of the council of the S.M.A., and it is gratifying to know that his place is to be filled by another of our West Virginia members.

CRIPPLED CHILDREN MEETING

The eleventh annual convention of the International Society for Crippled Children will be held at Rochester, New York, on April 17-20, 1932. Headquarters will be at the Powers Hotel and Dr. William H. Campbell of Rochester is the convention committee chairman.

Among the distinguished speakers listed to appear on the program will be Governor Franklin Roosevelt of New York, Dr. Ralph Osgood of Boston, and Dr. Ray Lyman Wilbur.

MESMERISM

And now comes a writer, Stefan Zweig, in an article for *Hygeia,* the Health Magazine, who asserts that Mesmer is not the discoverer of his own discovery, "mesmerism."

"No imaginative writer could have thought of a more tragical misfortune than that which befell Mesmer, which pursued him throughout life, and dogged him long after he was dead," Zweig begins.

Mesmer marched forth to defend his beloved theory of "the magnetic fluid." Almost at the same time, his pupil Comte Maxime de Puységur burst open the doors leading into the mental world, and did so from an utterly unexpected angle.

Mesmerism and hypnosis stimulated mental research and led directly toward the modern form of mental healing known as psychoanalysis.

DR. CURTIS T. ARNETT

Dr. Curtis Taploff Arnett, Clarksburg, died at his home there on December 6 at the age of 61 years. He was a well-known Clarksburg physician and had practiced in this state since his graduation from the Hospital College of Medicine, Louisville, in 1897. He was a member of the staff of the St. Marys Hospital.

DR. IRVIN B. KELLER

Word has recently been received of the death last October of Dr. Irvin B. Keller of Jane Lew, Lewis County. Dr. Keller was 55 years of age and death was attributed to angina pectoris. Dr. Keller was graduated from the Baltimore University School of Medicine in 1903. He had not been in active practice for some time prior to his death.

FOOTBALL

Big business has spread its tentacles over football so as to make it the source of income for the provision of all athletics. "Hence it looms large in the university and high school budgets. Unless a team puts up a good show, unless players demonstrate the will to die if necessary in the provision of a perfect performance, crowds are dissatisfied, attendance lags and the athletic department goes into 'the red,'" an editorial in the February issue of *Hygeia,* the Health Magazine, concludes.

FIREARM DETECTION

"In homicide cases wherein firearms have been employed, the bullets and shells, together with weapons suspected in the case are submitted to our department of firearm identification. Here, by means of certain markings imparted to the bullet from the rifling in the gun barrel or others on the shell head made by the firing pin, it is usually possible to determine whether or not a given bullet or shell was fired by the arm or arms in evidence," an article in *Hygeia* about the Scientific Crime Detection Laboratory states.

HOSPITAL VISITATION

"When you visit the hospital," a *Hygeia* article by Jean McCaleb, states, wear costumes that are cheerful and becoming, let gifts be somewhat off the beaten track, give reading matter which is easily handled and which will help lift the patient's spirits.

"PROFESSOR" VON WALDEN

"Professor" Rudolph von Walden has stormed the country with his "scientific" treatment of heart trouble. He has advertised full pages with screaming headlines telling about the "most successful method in existence." He is not and never has been a professor in any reputable scientific institution. Neither is he a physician nor licensed to practice medicine in any state in the Union.

Among other instances, "von Walden was reported held on two charges—that of practicing medicine without a license and that of having illegally in his possession 3 quarts of whisky. . . . When von Walden's case was called it was dismissed! According to the newspaper reports no evidence was produced to show that he practiced medicine and—most delicious of all—the "professor" was able to convince the court that the 3 quarts of whisky found in his possession were 'being used in connection with his professional work.,'" This is but part of the story Dr. Arthur J. Cramp tells in the February *Hygeia*.

SCARLET FEVER

In scarlet fever, desquamation, or peeling, in itself plays no part in the transmission of the disease. The organism responsible for scarlet fever customarily lodges in the nose and throat, or may appear in the discharges from an ear or gland (cervical adenitis), *Hygeia* explains in answer to a question.

ST. VITUS' DANCE

A number of drugs have been tried as a cure for chorea, or St. Vitus' dance, with no significant success. The most important requisite is complete rest. Usually this is best accomplished in a room alone. Various devices to secure the patient against falling from bed or striking head or limbs against solid parts of the bed are most important aids to sleep, *Hygeia* replies in answer to a reader's question.

WOMAN'S AUXILIARY

THE STATE JOURNAL

A recent editorial in *Colorado Medicine* suggested to the doctors that they take their Journal home each month so their wives would have an opportunity to see it. The editorial called attention to the fact that the Colorado Journal carried a section devoted to national and local auxiliary affairs in which the doctors' wives would be greatly interested.

What is true of *Colorado Medicine* is also true of THE WEST VIRGINIA MEDICAL JOURNAL. We suggest to all Auxiliary members that they take up this subject with their husbands. A busy doctor will usually pay more heed to a request from his wife than to an editorial in his medical journal.

PARKERSBURG AUXILIARY FORMED

During the noon luncheon at the Chancellor Hotel on January 29, the Woman's Auxiliary to the Academy of Medicine of Parkersburg was reorganized with Mrs. S. M. Prunty as president. Mrs. R. H. Wharton and Mrs. Rolla Camden were elected vice-presidents; Mrs. Ralph H. Boice, corresponding secretary; Mrs. R. E. Davis, recording secretary; and Mrs. A. D. Knotts, treasurer.

It was agreed to hold regular monthly meetings on the first Tuesday of each month and the date for the next meeting was fixed for March 8. There was a splendid attendance at the reorganization meeting. The Parkersburg Auxiliary expects to take an active part in the entertainment of visiting doctors' wives at the state meeting at Parkersburg next June.

KANAWHA AUXILIARY MEETS

An interesting meeting of the Woman's Auxiliary to the Kanawha Medical Society was held at the home of Mrs. John W. Moore, Charleston, on the evening of February 9 with a fine attendance. Dr. R. D. Roller was the speaker for the evening, describing the needs of Hillcrest Sanatorium. A number of business matters, including the appointment of committees, were disposed of.

THE CHICAGO COUNCIL ON HOSPITALS *

By W. E. VEST, M.D., *Huntington*
President, Hospital Association of West Virginia

IN CONSIDERING the report of a meeting, the reader should bear in mind that the reporter presents the mental picture of the meeting as it impressed him. Due allowance should be made, therefore, for the human element in this communication, but the writer believes it to be substantially correct, certainly in the main. It is very difficult to draw an exact line of demarcation between the ideas gleaned in the meetings of the Council of Hospitals of the American Medical Association and those in the American Hospital Association. As a matter of fact, the two meetings were so interrelated, and the subject matter so overlapped, it seems neither necessary nor desirable to attempt such a task.

Secretary of the Interior Dr. Ray Lyman Wilbur discussed: "The Fundamental Place of the Hospital in the Practice of Medicine." He sketched briefly the history of hospital development and stated that the modern hospital system is the finest flower of the Christian spirit. He made the following points:

(1) Although the capital investment in American hospitals is three billion dollars, and the industry very large when turnover is considered, and although a very pronounced service success, the hospital is a non-profit institution and a financial failure.

(2) Hospitals, regardless of how construction and maintenance are financed, are essentially public community institutions and should fit into the needs of the community to be served.

(3) The hospital is fundamentally an educational institution and the arena in which medical care, medical economics, and health, public and personal, should be continually stressed to patient, nurse and interne.

(4) As a result of the World War, the Federal Government has embarked upon a hospitalization program which has had an exhuberant mushroom growth; necessitates an enormous expenditure of public funds; serves the needs of only a small segment of one generation; destroys the normal personal relationship between physician and patient; will within two decades at most be largely empty and will present not only a problem as to disposition of buildings and grounds, but a very definite temptation to congressional politicians suggesting dangerous socialistic legislation; and the present building program should not be further expanded.

He suggested also that Congress is a very poor board of trustees for a hospital system and that the guiding hand should be that of the physician rather than that of the bureaucrat and the politician. Another very constructive suggestion made by Dr. Wilbur was that when the veterans' hospitals should have served their purpose, they be transferred to the states for use as insane asylums and homes for aged and infirm poor.

Bert W. Caldwell, Executive Secretary, American Hospital Association, discussed, "The Hospital Serves." Points stressed were:

(1) Fifty thousand persons are returned to productivity annually in the hospitals of the United States who treated anywhere else would be totally and permanently disabled and charges upon others.

(2) Twenty thousand lives are saved annually in these hospitals which without hospital care would be lost.

(3) Seven hundred thousand babies are born in these hospitals annually.

(4) The blighting hand of politics casts a continual shadow over governmental hospitals, be they local, state or national.

(5) Custodial patients are legitimate governmental wards and should be cared for in some type of governmental institutions.

(6) Hospital costs are now as low as can be made and maintain first class service.

(7) Hospital authorities should not allow patients or their families to assume financial responsibilities beyond their means.

* Report of the Annual Congress on Medical Education, Medical Licensure and Hospitals held under the auspices of the American Medical Association at Chicago on February 15 and 16, 1932.

C. Rufus Rorem, Ph.D., discussed, "The Hospital as a Medical Service Center." Ideas presented were:

The present hospital system does not give the public its maximum value because it does not handle the private ambulant patient. The physician is essentially the key man in any hospital scheme and as such his office should be in the hospital and in his office work he should use hospital nurses, technicians and equipment. With such an arrangement, the out-patient department would care for all types of ambulant patients, charity, semi-charity and private. As a substitute, he suggested the plan which has been tried at a Memphis hospital of having a physicians' office building adjacent to and connected with the hospital building in order to secure maximum benefit from hospital laboratory and nursing facilities. Advantages claimed for such a plan are: (a) Both patient and doctor save time; (b) more frequent contacts are made with other physicians; (c) the overhead expense is less; and (d) there is more complete coöperation between physician and hospital. Disadvantages cited by the speaker are: (a) The tendency to elaborate and at times unnecessary diagnostic procedure; (b) the loss of certain professional prerogatives; (c) the lack of adequate space in hospitals for office use. In addition we would add that such a scheme is ideal rather than practical except in very large communities and in those hospitals owned by physicians, approximately two thousand in number but representing only ten per cent of the bed space of the country.

Rev. Maurice F. Giffin, Trustee, American Hospital Association, stressed the necessity for absolute harmony between staff and hospital and decried the tendency upon the part of some, but happily only a small minority among staff members, to thoughtless criticism, disloyalty, selfishness and wastefulness. He suggested that a joint committee of the American Medical Association and the American Hospital Association write a model staff constitution. It is his opinion that group clinics and medical arts buildings are "mere milestones" in the march toward the hospital medical center with smaller staffs with a closer and more intense relationship all housed within the hospital, especially in the more densely populated communities. Incidentally Father Griffin gave a very catchy definition of a layman, "one who is less wise."

The ideas expressed at the program on nursing education were very varied and mirror the chaotic state of thought on this subject today. Dr. W. S. Leathers offered the following thoughts:

(1) Nursing education, now so largely conducted on the apprenticeship system, needs to be revamped and given better administrative relationships and more adequate teaching facilities, for at present it is lagging behind medical education and hospital service. Nurses should be taught more initiative, stability, diplomacy and tact, and should have a greater interest in public welfare, and a better understanding of home situations.

(2) Our 2,205 training schools are turning out about 25,000 graduates annually and many of these have inadequate preliminary and professional training, twenty-seven per cent not holding high school diplomas. There are now 200,000 actually engaged in nursing and the supply is increasing much more rapidly than the population, although one in three does not practice as much as a year. A normal ratio should be established and maintained.

(3) Nursing education is awry in that, (a) the objective is wrong, now being to care for patients rather than to educate nurses, leading to the exploitation of pupil nurses to save the hospital money; (b) instructors are all too few and not chosen with sufficient discretion, only fifty-eight per cent being high school graduates and only sixteen per cent having one year or more college work; (c) there is poor correlation between didactic and practical work; (d) dietetics and preventive medicine are not sufficiently stressed; (e) training schools are not adequately financed; and (f) all training schools should be oper-

ated under a separate budget from that of the hospital.

Dr. E. P. Lyon thought that the medical profession has a greater stake in the nursing profession than it realizes. The nurse is part and parcel of medicine and has two definite functions: (1) Therapeutic, and (2) social and preventive. He urged better training because "nursing is an advanced life, strictly a profession." There are too many nurses and too many training schools, for the reason that pupil nurses save hospitals money. He believes we are in a "cutthroat era" in nursing education and that fully ninety per cent of training schools should be abolished, with a maximum number of 200 in continental United States. A further idea of his is that the nurses can not solve the problem themselves and the American Medical Association should enter the field, prescribing standards and grading nursing schools as it does medical schools.

In the general discussion many others took diametrically opposite views, urging that nurses should not be medical students but should be limited to caring for the sick, following the doctor's orders only, leaving initiative and educational functions in the background.

At the conference of Trustees and Regional Presidents, many problems for discussion were presented. Among these were:

(1) The desirability of the American Hospital Association maintaining a full-time consultant in hospital problems, partly for correspondence and partly for field work, a portion of whose duties would be to conduct community surveys when new hospital construction is considered and advise as to the wisdom of such construction, this to prevent an increase of hospital beds beyond community needs.

(2) The desirability of the American Hospital Association establishing a research laboratory for the testing and approval of hospital procedures and material supplies.

(3) The appointment of a permanent legislative committee to secure and consider copies of all bills touching upon hospital interests which might be introduced into any state or provincial legislature.

(4) A survey of the cost and efficiency of training schools.

(5) A program of publicity to include newspapers and magazine articles and paid advertising and a series of leaflets following generally the series issued by the Pullman Company.

(6) The publication of a general hospital magazine.

(7) A committee on costs of hospital care.

(8) A committee on grading of training schools.

The New Jersey lien law came in for much discussion and it was decided to make such a law in each state and province a part of the definite legislative program of the American Hospital Association. Briefly the law is that upon filing a hospital claim with the clerk of the court against an individual injured on a highway any sum paid in settlement to the patient by either the individual or insurance company liable is subject to the hospital bill as a prior lien. New Jersey representatives reported that the law works very satisfactorily.

The matter of making it illegal to include in bankruptcy proceedings bills "for the necessities of life" furnished an individual or a dependent of his family was discussed. In all states having such laws hospital bills are included. Such a law in all states was made a part of the legislative program.

It was decided that the program at the next general meeting in Detroit, September 12-15, 1932, should include: (1) automobile accidents; (2) workmen's compensation; (3) publicity and hospital advertising; (4) bed occupancy.

Membership was discussed at length and it was decided to refer the matter to the Committee on Construction and By-Laws for report at the Detroit meeting. In the meantime all regional associations in the United States and Canada not now affiliated are invited to affiliate.

A plea was made by Dr. Chas. B. Wright of Minneapolis for more sympathy and assistance from the staff members in working

out hospital problems. He felt that an occasional staff meeting should be devoted to discussion of means whereby the individual staff members can aid in the solution of hospital difficulties and the effecting of hospital economies, and suggested that physicians might thus become more "hospital minded."

A resolution was adopted providing for a census of hospitals on March 15 to determine the number of veterans in non-Federal hospitals on that date, such census to be made by the state hospital associations. The questionnaire will be prepared at the Chicago office and mailed to all state secretaries promptly. It is hoped in this way to gain an adequate idea of the magnitude of the problem under consideration.

The hospitalization of veterans was discussed very thoroughly. Everyone conceded that neuropsychiatric, tuberculous, and service-connected cases should be cared for in Federal hospitals as far as possible. Likewise it was conceded by all that hospitalization of acute medical and surgical conditions, not service-connected, as conducted at present is not satisfactory to anyone concerned, and the care of sub-acute and chronic non-service conditions could be improved upon.

Dr. H. H. Shoulders presented what he called a veterans' health and accident insurance plan. It is briefly that the Federal government give each veteran an insurance contract allowing $12.50 per week of total disability and $4.50 per day extra for each hospital-confined day. He estimated the number of veterans eligible at four million and their average age at forty. For the first year the average disability would be one week and ten per cent would be hospital-confined. The veteran might choose his own physician and hospital and would be his own paymaster.

Mr. Paul H. Fessler, President of the American Hospital Association, presented a plan briefly as follows: Non-service-connected medical and surgical cases might be cared for at a hospital and professional rate to be decided upon by a committee representing the Veterans' Bureau, the American Medical Association and the American Hospital Association. Prompt care in the hospital of his choice and by the physician of his choice was urged. Mr. Fessler drew attention to the fact that one-third of the pay beds in this country today are unoccupied and the charity beds are all filled, and he presented a list of 1,769 civilian hospitals offering 28,333 beds for the care of sick and disabled veterans. He believed much time and transportation could be saved the patient and much money to the taxpayers by the adoption of some such plan.

Mr. Edward A. Hayes, a member of the National Rehabilitation Committee, American Legion, discussed the subject from the standpoint of the American Legion. He drew attention to the fact that the present pension law and the hospitalization of veterans for non-service connected conditions were not sought by the Legion but that these items had been included in veteran legislation by vote-seeking politicians. He stressed the point that upon two-thirds of the hospitalization program all are in accord and that only the acute medical and surgical conditions of non-service origin are yet to be agreed upon. This, however, is a growing problem, the number of such cases hospitalized having risen from 9,180 in 1930 to 11,754 in 1931. He made the point that the Legion had not consulted the medical profession enough in the past and very pertinently remarked this error ought to be corrected in the future. It seemed to be his idea that representatives of the American Medical Association, the American Hospital Association, the American Legion, and the Veterans' Bureau should work out together a suitable solution.

In fine, the impressions gotten from the meeting are that the major problems confronting the hospitals are: (1) ethical publicity; (2) closer organization and more coördination of effort; (3) guidance of legislation; (4) bed occupancy; (5) care of veterans; (6) standardization and classification of training schools; and (7) highway and industrial accidents.

MONTHLY MORBIDITY REPORT

BY COUNTIES

JANUARY 1932	Tuberculosis, All Forms	Chickenpox	Diphtheria	German Measles	Typhoid Fever	Hookworm Disease	Whooping Cough	Influenza	Measles	Meningitis Cer. Spi.	Ophthalmia Neonatorum	Poliomyelitis	Scarlet Fever	Smallpox
Barbour	----	----	2	----	----	----	1	----	----	----	----	----	1	----
Berkeley	----	4	10	----	1	----	----	----	4	----	----	----	2	----
Boone	----	----	2	----	3	----	----	----	----	----	----	----	5	----
Braxton	----	----	1	----	----	----	2	----	----	----	----	----	----	----
Brooke	----	11	----	3	----	----	----	----	2	----	----	----	10	----
Cabell	----	----	2	----	1	----	----	----	1	----	----	----	2	----
Calhoun	----	3	1	----	1	----	2	----	----	----	----	----	----	----
Clay	----	----	1	----	11	----	12	----	----	----	----	----	1	----
Doddridge	----	----	----	----	----	----	3	24	19	----	----	----	14	----
Fayette	----	6	8	----	----	----	17	----	15	----	----	----	1	----
Gilmer	----	----	----	----	----	----	----	----	3	----	----	----	4	----
Grant	----	1	----	1	----	----	----	----	10	----	----	----	1	----
Greenbrier	2	4	3	----	----	----	2	----	----	----	----	1	----	----
Hancock	2	1	----	----	----	----	----	----	----	----	----	----	6	----
Hardy	----	----	----	----	1	----	----	----	1	----	----	----	----	----
Harrison	----	80	13	----	1	----	41	----	692	----	----	----	18	----
Jefferson	1	4	3	----	----	----	17	7	6	----	----	----	4	----
Kanawha	5	32	15	----	3	----	7	2	99	----	----	----	37	----
Lewis	----	7	2	----	----	----	38	1	7	----	----	----	3	----
Lincoln	----	----	1	----	2	----	4	9	----	----	----	----	----	----
Logan	3	2	7	----	12	----	----	----	14	----	----	----	2	----
McDowell	2	----	----	----	----	----	----	----	----	----	----	----	5	4
Marion	1	22	3	----	2	----	16	2	177	----	1	----	9	----
Marshall	4	5	3	----	----	----	5	----	----	----	----	----	8	----
Mason	1	----	----	----	----	----	15	53	1	----	----	----	----	----
Mercer	----	14	11	----	6	----	10	13	----	----	----	----	5	----
Mineral	11	21	6	----	1	----	16	60	80	----	----	----	22	----
Mingo	1	10	8	----	4	----	3	21	----	----	----	----	----	3
Monongalia	----	7	15	----	----	----	4	----	137	----	----	----	9	1
Monroe	----	1	----	----	----	----	----	----	----	----	----	----	----	----
Morgan	----	4	4	2	----	----	----	----	----	----	----	----	----	----
Nicholas	----	----	5	----	----	1	5	----	201	----	----	----	1	----
Ohio	9	17	----	----	1	----	41	1	4	----	----	----	12	----
Pendleton	----	----	----	----	----	----	----	----	----	----	----	----	2	----
Pleasants	----	----	2	----	----	----	----	----	----	----	----	----	----	----
Pocahontas	----	----	----	----	1	----	----	----	3	----	----	----	----	----
Preston	----	----	3	----	----	----	2	----	6	----	----	----	2	----
Putnam	----	----	6	----	----	----	----	----	----	----	----	----	7	1
Raleigh	----	1	18	2	3	----	9	----	2	----	----	----	9	----
Randolph	----	1	2	----	----	----	----	----	----	----	----	----	6	----
Ritchie	----	12	----	----	----	----	14	----	----	----	----	----	----	2
Summers	----	----	2	----	----	----	----	----	----	----	----	----	2	----
Taylor	----	----	2	----	----	----	----	----	50	----	----	----	2	----
Tucker	----	----	----	----	----	----	----	----	----	----	----	----	1	----
Tyler	----	----	24	----	----	----	6	34	----	----	----	----	1	----
Upshur	----	----	2	----	2	----	----	----	----	1	----	----	2	----
Wayne	----	----	4	----	4	----	2	----	----	----	----	----	2	----
Wetzel	----	----	2	----	----	----	1	----	----	----	----	----	2	----
Wirt	----	----	----	----	----	----	10	1	----	----	----	----	4	----
Wood	----	7	14	----	----	----	4	----	----	----	----	----	11	----
Wyoming	----	4	7	----	----	----	17	17	1	----	----	----	3	----
Totals	42	281	214	8	60	1	326	245	1535	1	1	1	238	11

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THE NERVOUS PATIENT AND THE GENERAL PRACTITIONER *

By W. H. MAYER, M.D.
Pittsburgh, Pa.

OF MOST VITAL IMPORTANCE to the success of treatment of any disease process is the correctness of diagnosis in its early stages and the institution of proper treatment together with proper management. This applies to the entire group of neuroses with its multiplicity of classifications. It is not only of academic concern, but of social and economic interest to a degree which is not envisaged by those who are solely organic minded. The individual improperly adjusted is one of the principal causes for our already overwhelming economic waste.

To the general practitioner comes a group of protean expressions of inadequacy whose physical or psychic struggle with existence is not carried on with comfort physical or spiritual. A great majority of the symptoms which confront the physician in his office are exaggerated or contorted images of physiological reaction to pathological processes. By this, we may readily assume that we would be correct in saying that the neurotic symptom is the predominating one with which the general practitioner must deal. Certainly, his presence, the patient's confidence in his mental equipment and his art in applying medical principles sufficient to restore the psychic equilibrium and bring about relief of suffering. Medication adequately applied more often restores the patient than the therapeutic action of the drug which it contains.

The knowledge which the general practitioner acquires of the mental background of his patient by intimate contact is so much more valuable than the narrative which the specialist may obtain. The specialist on the other hand may more quickly gain a perspective of the problems, and through the new impression which the patient receives be more able to attain an insight into factors which are withheld from the family physician through natural resistance. It is readily evident, therefore, that the ideal treatment can best be achieved by physicians with different viewpoints who act in coöperation.

The morale of the individual and his reaction to unusual stress is the determining factor in the outcome of illness. There is not the slightest question that untoward psychic influence is a powerful agent in diminishing the vital resistance of the individual. Clinical observation, coupled with irrefutable laboratory studies, has established this beyond question. The degree of physical

* Read at the West Virginia State Medical Association at Clarksburg, West Virginia, May 19, 1931.

and psychic reaction is again determined by the constitutional makeup of the individual.

The careful physician looks to the environment of the sensitive case just as studiously as he observes bodily temperature reaction. We have inherited much of the distaste which our forefathers had for nervous reactions. This superstition and the tragedies which resulted therefrom seem yet paramount in many minds.

When the patient with bizarre complaints presents himself, and his symptom complex does not fit an organic picture and does not have an easy medical or surgical remedial agent indicated, we are often prompted to wave aside the problem with the word imagination. This is unjust and often due to lack of human understanding, for the individual who has lost confidence in himself needs the understanding influence and support so that he may place his confidence in one who is equipped to understand. Too often this superficial picture is the single outward expression of organic disease. Not recognized without thorough investigation, an unsuspected anemia easy of recognition, if sought for and corrected, may adjust an individual who is depressed, sleepless and full of fears and obsessions.

Disorder of gastrointestinal function, which I believe is commonly secondary, may seriously disturb a patient with a subnormal constitution. On the other hand, neuroses have been fixed, and most difficult of relief by too careful attention to unimportant detail of examination. The writer feels this so keenly that he has said this of the cardiac group, that it is better to err on the side of organic disease of the heart, than to render a patient with a trivial heart disturbance an invalid, by producing heart consciousness.

We are at present in an era of psychic investigation predicated upon hypotheses regarding disorders of the unconscious or so-called subconscious mind. It is a most captivating study and much good has been achieved by such investigation. Unfortunately, a danger too serious to be overlooked presents itself. Patients with neuroses are already hyperanalythical. In the unsuited case analysis may produce a tragic interspection. I need not tell a group of physicians how pathetic such an individual may become. There is probably no problem with which we have more difficulty in dealing. Without further description, I will add this word of caution because this alluring and interesting method is suited to so few and dangerous to so many.

The word neurasthenia has become hackneyed, but the neurasthenic patient is the individual who in his struggle for comfort suffers from inadequacy often due to his constitutional subnormality, but again is often due to organic disease sufficient to upset his equilibrium. The physical discomfort and painful fatigue which this group suffers, even under the most normal strain, defines and describes the condition. The distress in the back of the neck, the curious ache in the back, the feeling of fatigue on arising with hypersensitivity and irritability at the end of the day, are classical. The presence of psychic conflict or physical derangement must be carefully sought out, and a survey of the patient's constitutional background be made a part of the estimate of the individual. The reassuring type of psychotheraphy together with palliative doses of sedative, and I do not mean the depressing dose, is the pattern of treatment.

The anxiety state, which may be a precursor of a more serious mental problem is handled much in the same manner. It occurs in individuals of a higher constitutional level. It is often associated with gastric and cardiac symptoms which are, of course, due to involvement of the sympathetic and autonomic nervous system. In this particular group care must be exercised that early cerebrospinal lues is not overlooked.

Hysteria may be dismissed, only after a warning that, while hysteria may mimic any organic disease, it may accompany organic disease; and it may, therefore, be remem-

bered that these cases deserve and require most careful investigation on the physical side. The treatment when the diagnosis is once established is upon the psychic side alone, and the proper personality will succeed in alleviating much of hysteria. Some cases are so persistent that some of the more enthusiastic neurologists classify them as irremedial.

Another group is that which we called psychasthenia at one time, and this unfortunate word has lead to a misunderstanding of the symptoms and the problem. These patients have not an easily fatigued mind. In fact, they are often individuals of great capacity. The name compulsion neurosis is probably a much more fitting term coined by the Freudian school. Doubts, fears, obsessions, and compelling ideas constitute the picture. This patient differs from the delusional case. He realizes the absurdity of his ideas, but he is unable to do anything but obey. The gradual leading of these patients into painful situations and the winning of confidence to inspire self-confidence is the basis of treatment. It requires coöperation and understanding, and the prognosis is one of grave concern, for the old text book said: once a psychasthenic always a psychasthenic. This, like many axioms, is untrue. One must remember that severe psychoses are often ushered into being by the symptom complex aforementioned, so that the acutely developing compulsion neuroses must be watched and considered in this light.

The simple depression case: When the patient complains that it is impossible for him to have his mind remain quiet, that he is constantly thinking of painful things, and complains of parethesia in the epigastric region, and a sense of weight on his chest, we must separate him from the ordinary group of neuroses. We find in this particular group fairly adequate individuals who suffer severely. They may sleep well, but their waking hours are painful. This may mean the beginning of a melancholia and it may be a part of a group we call cyclothymic which are either on the stage of exaltation or depression. It is a group in which we find some alcoholics who seek surcease from depression in intoxication.

These simple depressions may last for a considerable period, and the writer has found that the use of tincture of deodorized opium has helped to splint this over-active mentality and that the institution of avocation of a physical nature produces an outlet until a norm is established.

The psychosis known as dementia praecox is the problem which all of us see too often. It occurs in the gentle, well behaved and good student type so often that its tragic aspect is so much more evident. The discussion of this condition is not in the province of this paper. In its incipient stage, it is often confused with neuroses.

Mental hygiene may develop ways and means to evaluate mental capacity so that the sensitive individual may be spared the psychic strain which undoubtedly produces this type. It will be your function to be alert and direct the family of individuals, for no one else can do it. The mental treatment of the early case is highly specialized, but of the chronic case is custodial. This admission is not pleasant to make, but it is the truth. In all of this series we have referred to the background, which, of course, means the heredity and the environment of the individual. His constitutional makeup is the result of many influences.

The family physician has the opportunity for the most accurate observation and the most understanding analysis of these situations. Properly applied, this knowledge is invaluable both in preventive and remedial medical practice. It discounts the psychic impression which these patients receive when consulting the specialist, although I do not underestimate the value of highly trained observation.

In summarizing, I would again refer to the fact that the life of the individual, his environment and the bodily and spiritual comfort are in direct relation to the adequacy of the individual to withstand the emotional

disappointments and to surmount the obstacles, which this thing we call living, presents.

My final word is, that in successfully treating a nervous patient, and this applies to any medical problem, one must obtain a perspective of his resources, both physical and mental, and a reasonable understanding of the world in which the individual lives as the individual views it.

Discussion

DR. W. V. WILKERSON, Montgomery: Dr. Mayer has given us an excellent statement of the problem presented by the neurotic patient. I feel that his discussion of the subject has offered food for thought for every physician who must deal with these patients, which includes nearly all of us.

In discussing Dr. Mayer's paper there is one particular phase of the subject which I wish to stress. I want to emphasize the importance of an exhaustive examination before classifying a patient as a member of the so-valled neurasthenic group. In my work at the Coal Valley Hospital and Montgomery Clinic I am constantly encountering the so-called neurasthenic patient. Many of these individuals must properly be regarded as having a neurosis, sometimes on the basis of a congenitally inadequate personality, frequently because they are reacting to specific situations. In a rather surprising percentage of cases, however, the patient's nervousness will be found to be only a symptom of some underlying organic condition which can be recognized, and therefore treated, if we can only take the time and trouble to make our history, physical examination and laboratory investigation sufficiently complete. Prominent among this group we find patients with hyperthyroidism, hypothyroidism and central nervous system lues.

There is another group of patients that merit special mention. I refer to the frankly unstable individual who, in addition, has a definite though nonrelated organic lesion. In my experience, and I doubt if it is particularly different from that of other physicians doing a large amount of referred work, I find these organic lesions are frequently unrecognized even in the face of typical histories, because the pertinent facts are obscured by neurotic phenomena.

In closing this brief discussion I want to stress the importance of an adequate examination to rule out the existence of organic lesions before we classify our patient as having a functional neurosis. If our diagnosis, after an adequate diagnostic study, is a functional neurosis we are then in a position to profit from the sound principles of therapy outlined by Dr. Mayer.

DR. C. A. WINGERTER, Wheeling: I think we owe Dr. Mayer a debt of thanks for bringing this subject before us in such a common-sense and understandable way. If we keep in mind the lesson he would teach us, many neurotics will get the help they need when they need it most; when they make their contact with the first physician to whom they apply, the general practitioner. When a careful physical examination shows there is no organic trouble present, then the patient must be properly assured.

He is filled with fears. He has a palpitation, and he sees himself dropping dead on the street. He has a little shortness of breath, and he fears he will smother to death. After the physical examination of the heart or lungs, or urine, when we find them normal, we must pass that knowledge over to the patient. Tell him his heart and lungs and kidneys are in good condition. Haunting fears may persist if we do not. We must use both direct and indirect suggestion in this assurance. Our manner is important as well as our tone of voice. Sometimes we must even use negative suggestion. We must use tact and sincerity and kindliness. Above all we must keep ever in mind Dr. Mayer's lesson, that on this first contact with the patient will depend whether he leaves us with his fears dissipated, or leaves us a confirmed neuropathic. That first interview is critical. It is frought with either comfort or misery. Which it will be depends on the physician.

DR. A. H. STEVENS, Everettsville: In the eyes of the general practitioner, a patient is more than the sum of all his organs. Over and above that, there is an increment of personality, constitution, and emotion which must be estimated by the general practitioner in order to thoroughly appreciate the patient as a whole. Dr. Mayer's common-sense interpretation of the patient's symptoms as seen in the office of the general practitioner is very timely for our better understanding of the patient as a whole.

Furthermore, Dr. Mayer has given the lie to the ancient definition of a psychologist as a man who is licensed to ask decent women indecent questions, because he has left a great deal of Freud out

of his paper and made it all the more readily appreciated and usable in general practice.

Dr. Mayer stressed how some of our patients' symptoms are primarily neurotic. I recall a case of a Polish man, who spoke very poor Englgish, who came in with a marvelous story of a worm which existed in his stomach. This worm, he said, came up at meal time and gnawed because it was hungry. This gave him much pain but, after the worm was fed, it went back and gave him no more pain. He carried the story through in perfect symbol, but in terms of this worm, a typical text-book history of peptic ulcer. This turned out to be the diagnosis after x-ray and gastro-intestinal examination.

When we consider that sometimes septicemia, tachycardia, urinary frequency, spots before the eyes, and ringing in the ears are examples of how psychic and physical causes may go separately or hand in hand to yield the case history elicited by the general practitioner, we realize the importance of estimating the general constitution and personality of each individual patient.

Surely the simplest functions of nutrition, elimination, sleep, and exercise are capable of coming under the jurisdiction of the general practitioner and I think Dr. Mayer will grant that they are very important in the realm of the psychiatrist. Possibly the general practitioner is more capable of obtaining the patient's confidence in a shorter time than the psychiatrist or other specialist due to his unique position in regard to the family.

DR. MAYER (closing the discussion): I wish to express my appreciation for the generous discussion. I am sorry I could not take up the traumatic group. You recognize it, of course, as an added emotional fact of possible compensation, the involvement of which is a tremendous influence. I often make assertions to these patients to get things settled and to remove the emotional factor.

I wish to thank the discussants for consideration of my avoidance of Freud and his system in intimate detail.

I hope I placed sufficient emphasis upon my chief point; that the man on the firing line of medicine is the man who can most quickly stop and thwart the beginning of neurosis and present it from becoming a life-long condition.

THE CUTANEOUS MANIFESTATIONS OF SYPHILIS*

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A DISCUSSION of the cutaneous manifestations of syphilis may be divided into three parts: primary, secondary, and late. The most important of these is the primary or chancre stage. In the male, the most usual site is about the corona of the penis; in the female, around the labia majora or on the cervix. Chancres also occur in both sexes on the lip, the mouth, the tonsil, face, skin of abdomen or thighs, or on the finger, especially about the nail. They may occur within the urethra. The stage of chancre appears with wide variation in local reaction. The spirochetes enter at the point of inoculation, and while the local reaction is developing, the lymphatic system picks up the organisms. This explains the presence of mild systemic reactions such as lymphadenitis, headache, and bone pains. The latter two, however, do not usually become evident until later. The blood begins to develop antibodies but not in degree sufficient to render the Wassermann reaction positive.

Usually the penile chancre is the first recognizable syphilitic lesion. It begins invariably at the point of inoculation. A lymphocytic and plasma cell infiltration produces a macule which soon grows into a papule. It may vary in size from a mustard seed to an ulcerating mass 10 cms. across. A local edema followed by infiltration gives the papule a shotty feel. The uncomplicated chancre is as a rule eroded rather than ulcerated. A serous exudate may form a thin, slightly greyish hemorrhagic crust. The base is smooth. The border is usually smooth and regular. A dark red line may sometimes

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be seen around the border. The lesion is usually painless, but this is not always true. The typical Hunterian chancre is not always seen, but in general if a lesion on the penis is solitary, round or oval, has a firm, button-like cartilaginous indurated base, a convex eroded surface, and a raw ham color, a thin serous discharge and a hemorrhagic border, not undermined, it passes as a chancre. If the lesion comes fourteen to twenty-one days after intercourse, is painless, accompanied by a discrete swelling of both chains of inguinal lymph nodes, the diagnosis is more sure.

Chancres elsewhere on the body assume many atypical characteristics. On the skin there is more apt to be a crusted lesion without the definite circumscribed induration of the base found in looser tissues. On the lip any lesion which is indurated, slow to develop and heal, and has enlargement of the adjacent lymph glands should have a darkfield examination of the lesion or of the gland. Chancre of the tonsil is usually unilateral. It is a firm elevated plaque. There may be no involvement of tissue about the tonsil. A greyish exudate may be seen. Induration is not always present. It may look like diphtheria, Vincent's, or lymphosarcoma. In women, chancre has been noted on the nipple. Chancre of the finger may not look like a chancre. It may vary from a mild paronychia to felon, or a granulating fungus lesion. It may result from trauma. I recall one case of slow healing in a finger crushed in an automobile door. Darkfield examination showed the presence of the spirochete in great numbers. Intense induration occurs in chancres of the clitoris and the urinary meatus. The slight pouting and eversion of the urethral orifice, giving the effect of a rolled border, together with the dense bony ring of infiltration may lead to a diagnosis of carcinoma. Many cervical erosions and vegetative lesions suggesting carcinoma may be proven syphilitic by darkfeld examination. Erosions of the cervix which are solitary and whose margins do not invade the external os should be examined by the darkfield.

The physical attributes of the primary lesion of syphilis may be summed up as follows:

1. The chancre tends to be single rather than multiple.
2. It has a relatively long incubation period (12 to 40 days).
3. The lesion, if uncomplicated, tends to be relatively painless. Chancre of the finger is an important exception.
4. There is induration of the base of the lesion.
5. Erosion of the surface is the rule rather than ulceration.
6. The border tends to be sharply defined, shows a fine hemorrhagic line at the periphery, and is not undermined or ragged in uncomplicated cases.
7. The base tends to be clean and a faint greyish pellicle or raw muscle color.
8. The exudate is serous rather than purulent.
9. The chancre tends to be indolent and runs a slow course (3 to 8 weeks).
10. A painless, non-inflammatory, discrete enlargement of the adjacent lymph-nodes, usually bilateral, develops after the first appearance of the lesion, and in about 70 per cent of the cases.
11. A notable exception to the bilateral character of the satellite adenopathy is the extra-genital primary lesion, in which the adenopathy is usually unilateral.
12. On healing, a thin, strophic, often practically invisible scar remains.

Long incubation, indolent, slow course, and satellite adenopathy are the outstanding features of the chancre in clinical diagnosis, but it must be reiterated time and again that the diagnosis of the primary lesion of syphilis is a laboratory and not a physical and morphological problem.

All genital lesions should be considered syphilitic until proven otherwise by repeated negative darkfield examinations. If on the first visit, the lesion has not received any kind of treatment, it may be soaked for a few

minutes in saline and the material pipetted to a slide for examination. If the lesion has had calomel, or any other medication, or has been cauterized, the darkfield may not show spirochetes on first examination. In this case the lesion should be wrapped in a saline bandage and the patient told to return the following day for re-check. This should be repeated not less than three times, before deciding that the darkfield is negative. In treated cases where the darkfield is repeatedly negative, or in lesions in the mouth, the neighboring lymph node may be aspirated and spirochetes found. No case should be dismissed as non-syphilitic until every effort is made to establish the diagnosis. It is our practice in those suspicious lesions in which spirochetes can not be found, to take a blood Wassermann two weeks later, and if negative, repeat in two more weeks.

After a diagnosis is made, no delay in starting treatment should occur. The patient should be told of the seriousness of his condition, at the same time taking care not to discourage him or frighten him. He should be told that he is in the stage where he has the best chance for cure. All efforts should be directed to securing his complete coöperation, for in the stage of chancre persistent and energetic treatment will go far in preventing late vascular and neurosyphilis. The time to treat neurosyphilis is in the stage of chancre and the treatment here is directed to prevention of these manifestations before they occur. This gives the least danger of physical incapacity and financial loss to the patient, and to the physician it gives the best possibility of cure. In the beginning of salvarsan therapy, Enrlich believed that one massive dose was sufficient for cure. Today there are those who believe four or five doses enough. And there are cases who after small amounts of salvarsan show a negative blood Wassermann, and for the rest of their lives show no evidence of syphilis. In all probability there are authentic cases of cure, but they must be cases of very early syphilis in the absence of a positive Wassermann. More commonly, the case of syphilis which has had five or six doses of salvarsan without further treatment, later develops symptoms of early neurosyphilis. I have seen recurrence of the chancre in these patients. Bearing in mind the probable outcome of the inadequately treated case, we explain to the patient why it is not safe to curtail treatment. We do not take Wassermann tests during the first course, because it is hard to convince the average Wassermann negative patient that he is not cured. As routine procedure, we give three courses of eight each of neosalvarsan, and bismuth, or mercury. The dangers of late neurosyphilis are too great to temporize with less persistent treatment.

Early Syphilis Stage of Secondaries.—The elementary lesions are the macule, papule, pustule, follicule, and scar. There are no vesicles in the adult. The localization is roughly as follows:

Macular—Flanks and abdomen, shoulders, upper arms and back.

Papular—Same as mascular but often on face, palms, and soles.

Pustular—Face and scalp. May extend in severe cases.

Follicular—Back and extensor surfaces. Scalp.

Configuration.—While any arrangement may be found, the most common grouping is a ring shaped one. These may vary greatly in size and structure.

Association.—In association with the skin lesions the entire picture of the patient may suggest syphilis. Certain associations are of importance: A membraneous sort-throat accompanied by a mascular eruption may be a streptococcal toxic erythema, but if accompanied by a macular eruption plus shotty flat papules in the palms it is more likely to be a secondary syphilid. A group of erosions in the mouth accompanied by firm flat papules on the tongue is almost sure to be syphilis. If there are blisters on the skin, pemphigus or erythema multiforme is suggested. A papular eruption on the palms or soles with nothing on the scalp, elbows, or knees, with

no fissuring, or patches of dermatitis elsewhere on the body, and without severe constitutional symptoms, suggests syphilis. Freedom from involvement of the mouth or genitalia in the presence of a general macular eruption is against syphilis. In a general papular eruption this has less weight, and in a pustular or follicular eruption the mouth and genitalia may often be free. A marked general adenopathy with an indolent general eruption speaks in favor of syphilis.

Characteristics of the Lesions.—The macular syphilid is the mildest expression of local reaction in the skin. Faint pink spots from a few millimeters to a centimeter in diameter constitute the roseola. Large lesions may be found in patients of low resistance. A slight edema may give the macule a papular appearance and feel, especially about the flexures or when viewed by slanting light.

It is a mistake to try to divide sharply the macular and papular types. The latter have evolved from the former. Papular lesions tend to darken in color and assume infiltration as they progress. They may be large or small, flat or rounded, scaling or smooth, and varying in size from the miliary papule to plaques 2 or 3 cms. in diameter with a fleshy or brawny feel. Confluence of these lesions may occur. Ordinarily one does not think of a papular syphilid scaling in any great degree, and this occurrence frequently leads to an erroneous diagnosis of psoriasis. It must be remembered that an apparent psoriasis may be a psoriasiform syphilid.

Follicular syphilids are usually papular, consisting of small rounded or pointed papules built up about the mouth of hair follicles. The inflammatory reaction usually results in a considerable excess of pigmentation, so that grouped follicular lesions with hyperpigmentation should always be suspected of being syphilitic. This grouping is, however, a common characteristic of two other types of follicular lesion, the trichophytid, and the tuberculid of lichenoid scrofula. Especial interest is attached to the follicular syphilid because of its demonstrated association with syphilis of the nervous system. The motheaten patchy alopecia of syphilis may be produced in this manner.

The pustular syphilid is comparatively uncommon. A few pustules may form part of the picture of a papular syphilid about the nose and forehead. The typical pustule is indolent, often simply softened in the center and crusted over rather than actively inflammatory and pus containing. Unless careful distinction is drawn between crust and scale, a pustule may be taken for a greasy psoriasoform papule. The giant pustular syphilid is called rupia and is more frequently seen in a recurrence than in the original secondary eruption. The lesion is a cold indolent ulcer whose crust through successive accretions from below, heaps up into a layer-like hardened mass similar to an oyster shell.

Next to chancre, the term "mucous patch" is most commonly associated with syphilis. It occurs on the tongue, buccal mucosa, and lips, and is simply a macular or maculo-papular eruption on a mucus surface. The typical mucous patch is slightly raised above the surrounding surface, very faintly inflammatory, and has a smooth round or oval central erosion covered by a flesh colored or pearly membrane. The base is smooth, clean, flat and pinkish or flesh colored. They are comparatively painless. Constant motion, as on the tongue, or infection may change the general appearance and produce ulceration and irregularity of outline. It is well to remember the fleeting character of the mucous lesions. They may be here today and gone tomorrow.

Infectiousness.—Most patients are concerned over the infectiousness of their syphilitic eruption. In general, the dry, uneroded early cutaneous syphilid is not infectious as far as contact is concerned. The pustular, and rupial types tend to be self-sterilizing. The fresh papular syphilid will yield spirochetes if young lesions are abraded. Macular and papular lesions which occur in flexures or crypts such as the axillary and inguinal folds, under the breasts or in the umbilicus, may erode and assume the characteristics and infec-

tiousness of mucus lesions. The chancre is almost always infectious.

In the detection of early syphilis it is essential that certain points of diagnosis be observed. In the stage of chancre, whether it be genital or extra-genital, repeated darkfield examinations should be done. If accessible, the lesion should receive copious saline soaks previous to withdrawal of serum, and if not readily accessible, the adjacent lymph gland may be injected with a small quantity of saline and aspirated.

In the stage of secondaries:

1. Strip the patient before direct daylight or arc light, avoid oblique illumination, and examine the mucous surfaces if cutaneous lesions are present and the skin if a mucous lesion is the chief complaint.
2. Expect symptoms in women; signs in men.
3. The blood Wassermann is more accurate when repeated.
4. Make use of the darkfield whereever possible.
5. Accept the repeatedly negative Wassermann reaction as eliminating all but one per cent of eruptive secondary syphilis.
6. Use the blood Wassermann more routinely, particularly in the fields of gynecology and otolaryngology. Use this test more frequently on young adults with headaches, persistent sore throats, rheumatism, and pseudo-tuberculous symptoms.
7. Keep early neurosyphilis always in mind.

Late Syphilis.—Thus far the skin has been a mirror reflecting the changing picture of progressing syphilis. The sequence of visible and invisible changes, the mechanism and its manifestations have kept step with each other. We pass at this point into an entirely different phase of the disease, the period of obscure developments within the tissues, of fluctuations of balance between resistance and susceptibility, and of alternate episodes of visibility, total obscurity, and insidious progress. It becomes more and more essential to know the clinical landmarks of the disease as a steady though gradual decline in the reliability of laboratory criteria makes itself felt. This is the period of latency and recurrences. Relapses may vary from outbreaks of multiple bone, skin, and visceral lesions, to the innocent and occasional mucous patch at the labial commissure. They may be nondescript or they may be highly characteristic. In general the nearer a relapse is in time to the secondary outbreak, the more wide-spread it is apt to be and the less serious and destructive. Secondary lesions and the earlier recurrences leave few traces. The longer the time interval between florid secondaries and the relapse, the more localized, solitary, and destructive the relapse tends to be. In the first year or two of an infection running a practically unmodified course, frequent recurrences in the mouth and about the genitalia are the rule. After the first three years lesions tend to disappear, the organisms become less and less numerous and accessible and gumma may develop in the liver or elsewhere. The skin manifestations do not always parallel the progress of late syphilis. Gummatous infiltration may begin in important structures with the early months of the disease, and on the other hand a patient may have numerous and superficial recurrences of a secondary type on the mucous membranes for years, while under cover of seeming good health, the chronic inflammatory changes that lead to paresis or aortic aneurysm may be preparing to withdraw him from usefulness a few weeks or months after the onset of symptoms. The importance of the clinical evaluation of the skin lesion as possible manifestation of late syphilis can not be overestimated, because often the only clue to a latent or relatively quiescent syphilis may lie in some lesion of skin or mucosa to which the patient has given little or no attention, and a cutaneous or mucosal lesion correctly interpreted may identify a syphilitic infection which would otherwise be missed because of a negative serology.

Late syphilids may be divided into nodular

non-ulcerative forms, nodulo-ulcerative forms, and simple gumma. The nodular types are gummatous infiltrations which do not break down. Involution may occur without leaving a trace, but usually it is accompanied by some degree of atrophy and pigmentatoin. There may be scaling, or crusting which resembles scaling. Nodulo-ulcerative lesions may present both nodular and ulcerative processes in varying proportions. The infiltrative phase may be short-lived and inconspicuous. The ulcerative lesions may be multiple and relatively deep. The configuration is extremely important and as much attention should be paid to the general picture of the lesions as to its individual units. Failure to note the shape and arrangement of the late syphilid accounts for many mistaken diagnoses. Scar formation is highly significant, and demands explanation. The solitary gumma, while a relatively less important lesion, is the average examiner's conception of the late syphilid. It develops as a cutaneous or subcutaneous tumor, at first pinkish, then changing rapidly to a darker red or bluish tinge. General softening occurs, or a minute elevation may form at the highest point. There may be a discharge of pus or a yellowish, rubbery slough, leaving a granulating ulcer. The gumma may occasionally involute without breaking down. In the diagnosis of syphilids the combination of induration with arciform or polycyclic configuration is perhaps the most important. An indurated arc or circle, or an arciform, scalloped, or serpentine chain should arouse the most insistent suspicion. The arciform grouping of ulcers and scallops or arcs in the margin of thin atrophic scars should be regarded carefully. The non-contractile scar of the superficial late syphilid may be imitated by the dry erythematous type of tuberculosis, but it is none the less important. A deeply ulcerated syphilid may wander about the face invading the eyelid without producing ectropion, while a more remote tuberculous ulcerative process may evert the lid and even distort the mouth and lips. Blastomycosis may produce a similar tendency to contracture. The peripheral hyperpigmentation of the late syphilid may be simulated at times by the effect of vascular stasis in chronic ulcers of the lower extremity, but the pigmentation of vascular stasis tends to be diffuse and extensive, the typical pigmentation of the syphilid to be limited to the margin of the scar, forming a narrow band. Tuberculids of the leg may show this marginal pigmentation of their scars, but the scars of other granulomatous lesions are singularly free from it. As in the easly stages, late syphilis may simulate a wide variety of skin conditions, but the following ten characteristics are generally noted.

1. Solitary, or at most few lesions.
2. Asymmetry, though by no means invariable.
3. Induration; deep palpable infiltration.
4. Indolence; a relatively low grade inflammatory process.
5. Arciform configuration: the borders are polycyclic, or form segments of circles, both in the individual lesions and in the group of lesions.
6. Sharp margination; punched out appearance in ulcers.
7. Tissue destruction and replacement without ulceration.
8. Tendency to central or one-sided healing with peripheral extension.
9. Scar formation: superficial, atrophic and non-contractile scar retaining the arciform shape of the original lesion.
10. Peripheral hyperpigmentation of rather persistent character.

No one of these ten individual items can be accepted alone, but the combination often achieve great value, and should be carefully considered in interpreting the Wassermann reaction.

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MANAGEMENT AND OBSTETRICAL CARE*

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THE purpose of this paper is not to delve down into the more intricate and complicated phases of obstetrics but briefly to give a résumé of things that every physician doing obstetrics should have brought to his attention every so often, because of a tendency to forget and take for granted.

First I wish briefly to mention that the United States is still down near the bottom of the mortality list for both infant and mother.

It is probably sufficient to say that in 1930 New York City alone had 122,811 births with practically two-thirds in the hospital. There was one death to 183 cases or .54 per cent, of which 32.6 per cent were due to sepsis, 18 per cent to accidents of labor, 16.4 per cent to toxemia, and 12.9 per cent to hemorrhage. So it is well to remember the immense obligation which is forced upon every physician doing obstetrics, for it is only by persistent and diligent care that we are able to keep our percentage down to the normal line, and the individual who can better this has accomplished something he may well be proud of.

Prenatal care is of the greatest importance. It aims to safeguard the mother and fetus by avoiding, arresting, or curing a disease which may cause death or bodily impairment to both or either, and to bring women to labor in a physical condition suitable to withstand the necessary strain. A woman may have kidney impairment and exhibit no sign until the burden of pregnancy is upon her. Tuberculosis and cardiac diseases are common and increase the hazards of child-bearing. Unsuspected syphilis and gonorrhea are fairly frequent; as are also the mentally, physically, and morally unfit, all of which add to the importance of prenatal care. Then we have the obstetrical complications such as contracted pelvis, which may become a menace to both mother and baby during labor.

As soon as the woman suspects she is pregnant she should go to her physician for diagnosis and be under careful supervision during the entire period. The physician at the time of the first visit should obtain a complete history and ascertain if there has been present tuberculosis, insanity, hemophilia, cardionephritis, tumors, etc. The past history should be studied as to operations, foci of infection, and general diseases, previous pregnancies, abortions, toxemias, hemorrhage, and the expected date of confinement should be recorded.

On physical examination a complete and thorough record of physical findings should be noted as to whether the expectant mother appears normal, for her age, fat, abnormally thin, or shows evidence of glandular disturbances. Characteristics should be carefully noted, careful attention to teeth and mouth for evidence of improper oral hygiene, then the chest, breasts, abdomen, and extremities should have careful examination. Vaginal examination should be made at the time of first visit, to determine pregnancy and the position of the uterus, and to discover any evidence of tumor or pathological condition, with smears from any suspicious case.

At this time it is well to determine the contour of the sacrum, mobility of the coccyx and prominence of the ischial spines and internal measurements. External pelvimetry which contributes to the knowledge of the type of pelvis should be done in each and every case. If pregnancy is diagnosed, minute instructions should be given to the patient on the usual points of hygiene.

In the diet of the expectant mother not

* Read before the Central West Virginia Medical Society, Summersville, December 18, 1931.

only an adequate supply of the food-stuffs necessary for both the mother and the fetus should be taken into consideration, but also the complete elimination of the waste products of metabolism. The products of metabolism of the fetus have to be eliminated through the organs of the pregnant woman, and if these toxic products are retained, the dreaded toxicoses occur. The disintegration of the protein molecule is more difficult, as is proved by the presence of uric acid, indican, amino acids, etc., in the blood and urine. The fat metabolism is also disturbed; and if the supply of carbohydrate is insufficient, acetone and diacetic acid form, as a symptom of the disturbed decomposition of fat. Carbohydrates, on the other hand, are utilized during pregnancy without difficulty. The conclusion is that pregnant women should cover their requirements of energy chiefly by food with a preponderant content of carbohydrates, whilst the supply of proteins and fat should be restricted.

In addition to the selection of the actual food-stuffs, care should be taken to provide a suitable and sufficient supply of minerals. For building up of its body, the fetus requires fairly large quantities of calcium. Most pregnant women have an instinctive longing for calcium which it is best to satisfy by a supply of fresh vegetables, cheese, and milk. The requirement of iron is generally sufficiently covered by the supply of fresh vegetables, fruits, and salads. In certain cases, especially when there is anemia, a medicinal supply of iron is, however, also indicated. The elimination of common salt is more difficult during pregnancy; therefore, the supply of salt should be much restricted, and the food only slightly seasoned. There seems, however, to be no justification for restricting the supply of water; as the power of concentration of the kidneys is retarded, an increased supply of liquid is necessary in order to cover the demand of the fetus for liquid, also in order to facilitate the elimination of the products of metabolism. The increased thirst of the healthy expectant mother should, therefore, be satisfied by giving her fruit juices, etc.

It is very important for the patient to have a sufficient supply of vitamins; the fetus needs relatively large quantities and may deprive its mother of them. If the latter does not get enough vitamins it may be of serious consequence for both mother and fetus. Hemorrhagic diathesis, osteomalacia, neuritis, and other diseases are nowadays ascribed to such impoverishment of vitamins in pregnant women. The observance of this diet rich in vitamine represents at the same time a valuable prophylaxis against habitual miscarriage.

Stubborn constipation is found in many pregnant women and involves serious dangers, as the elimination of waste products of the fetus and mother is of the greatest importance during pregnancy. Where a predominatingly lacto-vegetable diet does not produce normal functioning of the bowels, peristalsis should be incited by the liberal consumption of liquids, fruit juices, plenty of fruit, possibly petrolagar a tablespoonful two or three times daily, or, in case of necessity, a vegetable laxative. Strong purgatives are, of course, contra-indicated on account of their abortive effect.

The weight should not increase above thirty-five pounds and should be a steady gain. A sudden gain above five and one-half pounds per month is likely to portend metabolic disturbances and is often due to edema. If a patient does not gain weight there is also a likelihood of some abnormal condition, as the products of conception represent about twelve pounds.

It is a safe rule to advise outdoor exercise without fatigue, although this should depend on the habits of the individual. The proper belief that the fetus takes calcium from the mother's teeth and bones is true to a very limited extent. The decay is more often from an up-set stomach which alters metabolism. Any oral infection should be thoroughly investigated and corrected if possible.

The breasts should receive early attention, such as massage daily. Under developed nipples may be elongated by traction with fingers or breast pump.

Minor disturbances such as heart burn, fainting, cramps, varicose veins, hemorrhoids and leucorrhoea can usually be taken care of with little trouble. The more annoying symptoms are: neusea and vomiting, abortion and premature labor, toxemia, kidney and cordiac diseases, syphilis and abnormal presentation, each of which requires pains-taking study and continued effort to correct.

Having followed the patient through prenatal care we have yet the final few miles which seem the more difficult for both the physician and the patient.

Our every aim is to give the easiest delivery with the most protection to the mother and the baby. This can only be accomplished through diligent effort and wise obstetrical procedure.

In caring for a patient in labor, it is advisable to take her pulse and temperature. Fever usually indicates puerperal infection and is a warning against vaginal examination. The systematic external examination is very helpful in determining the position of the fundus and the fetal position in the fundus. During the external examination one may determine the degree of dilatation of the cervix indirectly from the distance of the limiting furrow from the upper margin of the symphysis. This requires palpating during a labor pain. At a distance of two finger-breadths the cervix is about as big around as a silver dollar; at a distance of three finger-breadths, as wide as a small palm; at a distance of four finger-breadths, fully opened. The constant observation of the fetal heart tones is very important; alternate tachycardia and bradycardia indicate intrauterine asphyxia with premature respiration.

One can direct most births by means of the external and rectal examinations. The digital dilatation is often wonderfully effective in the case of persistent weak labor pains, but this should only be resorted to when all other remedies have failed. The rupturing of membranes when the mouth of the uterus is not yet fully opened is permissible: first, when a stiff hard membrane, grown to the mouth of the uterus, hinders the progress of the birth even though the labor pains are severe; and, second, when the pains are slight due to excessive fluid before the presenting part. This causes the head to slip back out of the lower portion of the uterus during every pause in the pains. The head is fixed from without, and the amniotic fluid is allowed to escape slowly.

Labor is induced by careful emptying of the bladder and intestines. In the case of every long labor, the intestines should be cleaned out twice if possible in twenty-four hours. When the bladder is full labor pains are ineffective and extremely difficult. Sometimes the bladder can be emptied by pressing carefully with the open hand. In other cases, the insertion of a Nelaton catheter is effective despite compression of the urethra by the head. Quinine may be given, 3 or 4 gr. four times in six hours. Thymophysin is now used extensively, in quantities of from one-fourth to 1 c.c. injected intra-muscularly, best given when the cervix is opened wide enough to allow the insertion of two fingers. If the labor pains increase in severity after giving one-fourth c.c. thymophysin, the remaining three-fourths c.c. can be given shortly. Then the pains become less severe and the cervix opens almost completely.

When should the woman in labor bear down? In general, only after the cervix is fully opened, the membranes ruptured, and the precedent part has entered the pelvis. The patient should by no means bear down with every labor pain, only with those that are rather strong of themselves. The best results are produced by bearing down when the patient is lying on her back, but her strength must be conserved for the expulsion period by lying on the side. Useless and too early bearing down endangers both mother and child.

The perineum should be supported by

permitting the head to pass through slowly and with the smallest possible surface by laying on the fingers of one hand. It is not a question of protecting the cutaneous perineum but of protecting the muscles of the pelvic floor. One often sees total prolapse in spite of an intact cutaneous perineum. Too long support of the perineum also endangers the child. When there is imminent danger of rupture of the perineum, one should not put off episiotomy too long. In the case of a forceps operation or a pelvic presentation, it is almost always advisable.

Signs of detachment of the placenta may be ascertained by pressing the uetrus upward, if the umbilical cord does not recede at the same time, the placenta is detached.

The conduct of the first stage of labor depends to a large extent on the relief of pain. Briefly the common methods used are for the primiparae, morphine-scopolamine analgesia to a stage three hours before expected birth of the child. When pains become harder this is supplemented by inhalation alualgesia gradually increasing to anesthesia. In some cases a colonic ether preparation is given between the scopolamine stage and the anesthesia with very satisfactory results. In multiparae sodium amytal may be administered followed by ether, colonic ether, and then anesthesia. The general anesthetics of choice are ether and nitrous oxide-oxygen. While in its infancy, subdural injections of 50 mg. of novocain for the second stage of operative termination seems to be becoming more and more popular.

HEADACHE AND ITS SIGNIFICANCE *

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IF PHYSICIANS' records were to be reviewed or if an unselected thousand were to be questioned anywhere, any time, the most prevalent complaint would unquestionably be HEADACHE. Not only is this a widespread complaint, but also one varying widely in its etiology, significance, and character.

A diagnosis should rarely, if ever, be made on headache alone or on any single symptom. The objective findings should be carefully correlated with the subjective.

The principle of routine examination is so thoroughly impressed upon the medical student and its advantages so frequently discussed in the literature that little need be said about it here. It is an ideal but it has its disadvantages. Dr. Edward Jackson's idea of a real study of a patient is to find a definite, significant clue and follow this clue systematically and intelligently rather than be defeated by one's own purpose in dogmatic routine.

Headache, owing to its varying character and to the frequency with which it is encountered, is a symptom of importance and one which can profitably be followed through to determine its etiological factors.

It is interesting to note how many branches of the medical profession are definitely and constantly confronted with this common complaint. We may list them:

General Practitioner	Otolaryngolist
Proctologist	Psychiatrist
Ophthalmologist	Internist
Neurologist	Obstetrician
Gynecologist	Urologist
Periatrician	Gastroenterologist

All the above may be consulted primarily because of the complaint—headache.

Opinions vary as to the most common cause of headache. Some emphatically state that nasal headaches are most common, while Tice says, in his discussion, that undoubtedly the eyes are the most frequent cause. It can be safely stated, however, that pathology of the

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eyes and nose cause the greatest number of headaches.

The following is a list in the order of their frequency:

1. Ocular
2. Nasal and sinus
3. Toxic
4. Vascular
5. Systemic
6. Gynecological
7. Neurological
8. Syphilitic

In considering etiology, there are general considerations which should be kept in mind, chiefly our idea of heredity. We need not stop by simply saying that the headache is inherited. There are certain diatheses which are the underlying causes, such as ocular, nasal, or dental defects, excess uric acid, nervous, and others.

Eye conditions are one of the commonest causes of headache. The factors fall naturally into two classifications: those arising from functional eyestrain and those that have their origin in actual eye disease.

Of these two, functional headaches are by far the most numerous. It is estimated that about sixty per cent of all people have some kind and degree of refractive or muscular error in the visual apparatus and a goodly proportion of these uncorrected defects give rise to troublesome headaches.

Dr. Walter B. Lancaster, in an article in "Annals of Otology, Rhinology and Laryngology," summarizes as follows:

"Since headaches are more often due to the eye than to anything else, the eyes should have careful study in every case of repeated headache. Since eyestrain is very common in eyes with extra good vision, the presence of good vision is no ground whatever for thinking that a given case of headache is not ocular. The severity of the headache does not depend upon the magnitude of the refractive error. It depends on the efforts, usually quite unconscious, made by the patient to correct it and on susceptibility, often hereditary. (It may be added that this effort is usually greatest in small degrees of error because where the error is high, the patient gives up all attempt to equalize it.)

"Nothing short of the harmless therapeutic test of wearing properly fitted glasses is conclusive, and even then one man's efforts are not enough. Often success follows the failure of several good oculists, so elusive and difficult is the elimination of eyestrain in some cases,—so easy in others."

There comes to my mind the case of a student friend of mine who repeatedly visited oculists of national reputation both here and abroad before it was found that his trouble was in the extra-ocular muscles and relieved by a prism.

Eyestrain is due to the act of accommodation, focusing, and fixation. Headaches are usually produced by intrinsic or extrinsic ocular muscles. Strain of the intrinsic muscles causes frontal headache while strain on the extrinsic muscles causes occipital headache.

Hypermetropia is the most common cause of eyestrain of all the refractive errors. Hypermetropia and astigmatism throw more work on the ciliary muscles.

Myopia causes headache probably in part, from over work of the adductors.

Pain in the nape of the neck is thought by Doyne to be due to disturbance of muscular balance when it is of ocular origin.

Bright lights, such as sunshine, snow or glare on the water, may affect the optic nerve quite independently of the reflex effect upon the intrinsic ocular muscles, according to Campbell.

I have had a case recently complaining of headache apparently of ocular origin in which the refractive error was checked and rechecked, with the hope of finding a slight error, not previously corrected, sufficient to cause the symptoms. No change of lens was needed. The patient was previously told that he had sinus trouble and had been subjected to much sinus treatment. No definite history was obtained which would suggest glare as the etiology. A tint was put in this man's glasses and he was greatly relieved. Glare is an important factor in ocular symptoms, so much so that many ophthalmologists use the light tint in the lens almost routinely, especailly since the shading has been developed to the point where it is not habit-forming.

When we come to the second class of ocular headaches, namely, those which are

due to ocular disease, it may be said that two eye diseases are responsible for the vast majority of this group of headaches—iritis and glaucoma. Both of these headaches are, as a rule, one-sided, since only one eye is commonly affected, though in case of iritis, the condition is at times bilateral.

Skillern says that the cause of headaches in nasal and accessory sinus trouble depends on (a) swelling of the mucosa with pressure or irritation of the nerves; (b) direct contact of the swollen mucosa; (c) negative pressure in the sinuses; (d) stasis following obstruction of drainage passages; (e) ulceration of mucosa with involvement of nerves; (f) resorption of toxins formed within sinus; (g) any condition which causes active congestion of the cranial circulation (acute exacerbation of a chronic inflammation, over-indulgence in alcohol, tobacco, etc.); (h) disturbances in the blood and lymph circulation at the base of the skull.

The most common causes of nasal congestion are swelling of turbinate bones and nasal polypi; both may or may not be associated with sinus involvement.

The simplest case of nasal headache is that which is due to pressure of the middle turbinate upon the nasal septum. This occurs most frequently, of course, with a deviated septum. The next most frequent are those due to congested sinuses with pressure on the nerve endings.

Nasal headaches are made worse when the head is low and when the nasal mucosa is irritated by dust or pollen. It is noticed most often in the morning. When of sinus origin, it is not relieved until the patient is up and establishes drainage.

Grunwall reports headaches in one hundred per cent of acute sinusitis and in fifty per cent of chronic cases, and this usually at sometime every day, usually in the afternoon and lasts several hours.

Pain from frontal sinus is usually limited to the glabella or supra-orbital region or to the whole frontal area. Rarely is it occipital and it is on the side of the inflammation. Periodicity is marked—10 a. m. to 2 p. m.—and ends rather suddenly.

Ethmoid disease usually causes dull pain between the eyes with a feeling of weight in the vertex.

Maxillary sinus disease usually causes pain over the area affected, but in twenty-five per cent of chronic cases is referred to the supra-orbital area and confined to the side affected.

Sphenoidal sinusitis can cause pain in the temporal, post-auricular areas, or middle ear, with a feeling of weight or pressure in the vertex. The headache may be the only symptom of the disease. Both sphenoid and posterior ethmoid cells may cause pain in the occipital area.

The aching from intra-nasal disease (chiefly obstruction) is usually at root of the nose or over glabella or frontal area, worse in the morning, often awakening patient about 4 a. m., and usually associated with congestion. It decreases in the day and is easier in the afternoon.

Neuralgia is often about the head and is, in this sense, headache. This and other allied conditions are perhaps associated with foci of infections.

Autogenous poisons: Constipation is a common cause of headache in this group and is always uppermost in the minds of the laity.

Vascular headache: The old conception of a congestive headache, commonly described as "a determination of blood to the head" (meaning the brain) is largely a fallacy. It is quite likely that under certain conditions, such as hard and continued mental application, the blood is sent to the cerebral areas in large quantities, but in view of the fact that the cerebral vessels are not furnished with vasco-motor nerves and of the mechanism provided in the brain for the equalization of pressuhe, such as between the arteries and veins, it is difficult to conceive of anything like congestion resulting from such a cause, certainly not enough to produce a headache.

In the chronic condition of hypertension which accompany nephritis, arteriosclerosis and the like, the headache, when it is present,

is more likely due to the toxemic of the disease itself, than to the high pressure; and if it be vascular in character at all, it is far more likely to be a case of cerebral anemia, due to interference with vascular nourishment, than a pressure condition.

The anemic character of the headache can often be verified by an ophthalmoscopic examination of the eye-grounds, which frequently give a typical anemic appearance.

Sexual origin: Headaches associated with menses are very common. It is probably a mixture of vascular, toxic and endocrine causes. Abnormalities of pelvic organs certainly are responsible for headache at times also. In male as well as in female, improper internal secretion of gonads can cause headache.

Syphilis may produce very distressing and persistent headaches although some advanced cases do not produce any symptoms at other times. The pathology may be due to gross specific lesions or to intoxication.

Meningitis, gummatous formations, arterial changes, or changes in the skull are at times responsible for syphilitic headaches. In the majority of cases, luetic headaches are not localized but generalized and become worse at night.

Bright's disease may cause headache and, it matters not what our specialty may be, in the search for the cause of a headache, one should always routinely make a urinalysis.

Ear: Any disease of the ear, especially inflammation, may cause headache. The pain usually radiates to the entire side of the head and, at times, over the entire head. But not only inflammation of the ear but also obstruction of the eustachian tube, foreign body, or wax in the external canal.

Abscess or impaction of teeth may cause a headache which involves a troublesome search for cause.

Anemia, either acute or chronic, will cause headache, located usually in the froatal area but may be vertical, occipital or general.

Migraine: By migraine is meant periodic attacks of pain in one or the other side of the head, often associated with vomiting and followed by sleep. While this definition is usually true, it may be stated that headache may be on one side of the head only or upon both sides, while migraine, though usually on one side of the head, may be on both (Gowers, Campbell, and others). It is evident that there is no clear differentiation between headache and migraine, in so far as the location is concerned, and we may also say that the etiological factors are for most part the same in the two conditions. All cases of migraine are cases of headache but all cases of headache are not migraine. There is no difference, except in the extent of the seat of the pain, between migraine and periodic sick headache and they will be treated as the same.

Etiology: Migraine often begins in early childhood. Patients often use the expression, "as long as I can remember." In the vast majority it occurs before the twenty-fifth year, though it may begin as late as fifty or sixty. Often it begins at puberty, especially with girls. The disease is rare in the ignorant classes. It is found chiefly in those of neurotic tendencies and from families and people who lead studious lives.

Diagnosis: Much confusion has been produced in literature by using the term migraine when the term headache should be employed. Thus cases of sinusitis or eyestrain, producing a one-sided headache, are quite commonly termed migraine. It should be remembered that headache is a symptom and migraine is a disease. Migraine, periodic sick headache, and bilious headache are terms used to designate recurring periodic attacks in which headache is the chief symptom, and which occur in definite attacks, the patient being in good health between times.

Besides these causes, one should at least enumerate the following, though rarer in occurrence, as further causes of headache:

1. Brain diseases: Meningitis, encephalitis, tumor of the brain, abscess, chronic hydrocephalus, general paresis.
2. Functional brain diseases: Hysteria, neurasthesia.

3. Gastro-intestinal disturbances: Jaundice, intestinal parasites, achylia gastrica. Stricture of rectum: Diabetes.
4. Glandular: Myxedema, Addison's disease.
5. Exogenous poisoning: Nitroglycerine, quinine, alcohol.
6. Uremia.
7. Febrile.
8. Head injuries.
9. Spinal punctures.

Further, one must consderi the exciting causes which iperhaps have less organic basis —such as emotion (worry, anger, excitement), over-work, mental exhaustion, severe exercise, coughing, blowing wind-instruments, excessive laughter, crying, insufficient sleep, poor ventilation, especially dryness of atmosphere. These would exaggerate the symptoms or precipitate an attack, when the organic etiology would be elsewhere.

The writer has found it helpful to ask the following questions in studying a headache:

Onset: Date if possible, but whether it has been days, weeks, months or years. If recent, whether associated with acute infection, injury, toxemia, elevation of altitude. If prolonged, (habit headache,) the etiology must be further sought and may persist for a while after the cause has been removed.

Location: Location as nearly as possible, occipital, frontal, nasal, temporal, unilateral, general.

Character: Dull, throbbing, shooting, lancinating, fullness (as if head were large), continuous or intermittent, burning, deep or superficial.

Made worse: by noise, light, coughing, sneezing, exertion, eyestrain, head colds, constipation, etc.

Obtain the patient's idea as to cause.

Time of day: When the headache is first noticed, when it is worse, and when it improves.

What gives relief: if it be sleep, headache powders, laxative, soda, etc.

Location: It may be helpful to take up the most common location of headache and listing the most common etiological factors involved in these areas.

Vertex headache: Pathology of ethmoid sinue, posterior portion of eye, neurasthenia, hysteria, epilepsy, anemia, chlorosis, uetrus, ovaries, bladder, stomach, and intestines.

Parietal area: Pathology of ear, stomach, and intestines.

Occipital: Meningitis, spinal irritation, syphilis, sphenoid sinus, naso-pharynx, refractive error.

Area of ear: Middle ear, external ear, mastoid, teeth, sphenoid.

Frontal: Eye, iritis, eyestrain, neuralgia, anemia, frontal sinus, syphilis, maxillary sinus.

Bridge of nose: Ethmoid sinus and nasal.

Maxillary: Teeth, maxillary sinus, ear, and mastoid.

General: Hysteria, hypertension, general debility.

When the location varies, the etiology is usually functional. A headache that prevents sleep is organic, while one that does not interfere with sleep is functional, according to Gowers.

When one starts a systematic study of headache, Osler's statement about syphilis comes to my mind—"If a doctor knows syphilis, he knows medicine." This is almost true of headache, so varied are its causes and meanings.

The late Dr. Murat Willis used to tell us as medical students in our clinics, "There are Christmas diagnoses, there are Sunday diagnoses and there are every-day diagnoses." He advised us for a while anyway, to confine our diagnoses to the "every-day" class, to the more common causes of the symptoms or, at least, to carefully rule them out before we ventured into the "Sunday and Christmas" group.

In considering headache, the eyes and nose with its sinuses are certainly the "every-day" group and should be ruled out carefully when the etiology of this troublesome symptom is being considered.

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MALNUTRITION DURING EARLY CHILDHOOD*

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THE recent White House Conference on Child Health and Protection has tended to focus our attention on the proper care of our children probably more acutely than any other event in the history of our country. Many interesting facts about the normal child, the problem child, and the undernourished child were brought to light during this important meeting of the outstanding authorities on child health in America.

One of the most far-reaching investigations was centered about the malnourished child. Of the 45,000,000 children in this country, 6,000,000 are undernourished, and this undernourishment, for most part, is occurring during the very foundation years of the child's life, the years that are so important for the future health of the individual. It has been estimated that twenty to twenty-five out of every hundred children entering school for the first time are undernourished to some degree. This ratio decreases as the child grows older. Thus malnourishment is really more prominent during the pre-school years and it is to this period, particularly, that I wish to draw your attention for a short time, for it is during these early years that we should strive to correct this condition. Later, the scholastic routine complicates the difficulties in overcoming malnourishment, particularly in the matter of securing sufficient rest for these delicate children.

Now let us get a picture of what we mean by a malnourished child. To many of us when we speak of malnutrition, we immediately picture in our minds the thousands of starving children in foreign lands, or the children of the poverty-stricken classes in our own land. But is this a true picture? Malnutrition is no respecter of the different strata of society. We, no doubt, do find the condition to be more prevalent among the poorer classes, but we also find it among the well-to-do, the families that can afford the best of care and food for their offspring. Therefore, let us define what we mean by a malnourished child.

The feature that is most familiar to us all is underweight. That is, there is a disproportion between the ratio of height and weight for that particular age. Mothers frequently speak of these children as having never been fat and robust. We even hear the remark that the "child has out-grown his weight," and we often fall into the error of reasoning that, if we leave the child alone, he will gain in weight when he ceases to grow in height. This is trusting too much to nature. The normal child should show a steady gain in weight from time to time. If the weight remains stationary while the height increases, the child is actually losing weight. It is not necessary that every child should measure up to a certain standard to be healthy, but every child, being a growing structure, must show a gain in order to be normal. Underweight alone does not mean malnutrition. The two terms are not synonymous. Many children who are under the standard expected for their age and height are normal in other respects. Heredity has to be considered. Therefore, underweight is only one of the evidences of malnutrition.

Fatigue is one of the most striking features of the malnourished child, who lacks the vitality found in normal children of his age. He may be energetic and play hard for a short time, but then he tires and must lag behind. Fatigue manifests itself in the pre-school child during play particularly, especially during competitive games. The child makes a fine beginning. He is willing enough

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at first to enter into group play but tires so easily that he must give up, or else he is so far-surpassed by his competitors that he loses heart. He learns by trial and failure that he can not keep up with the group and, therefore, seeks younger playmates or amuses himself with sedentary interests, which deprive him of the out-door life so important for normal development. Often the child is considered lazy, when, in fact, he just hasn't the vitality to run and play as a normal child should.

Frequently the first noticeable signs of fatigue to the parents are manifested upon entrance to school. The child can not hold up under the strain of the usual scholastic routine. He is found leaning upon the desk, or may even go to sleep. Many are backward in their school work and are considered stupid when, in reality, they tire so easily that they can not concentrate or absorb the facts as presented by the instructor. There are exceptions, of course. Some malnourished children are quite precocious; but as a rule, the malnourished child finds it difficult to keep up with the school work.

Hand in hand with fatigue goes poor posture, or faulty body mechanics. The muscular system shows lack of proper development and, also, lack of proper tone. The muscles are soft and flabby instead of being firm and strong. The tendons also manifest laxness. Turning of the ankles, particularly, is very common. Pronation of the feet is also seen, due to the muscular weakness. This lax condition of the muscles leads to faulty posture. The child develops a "fatigue posture" so often seen in high school girls and might be called "debutante slouch." The head and chin protrude, the shoulders are rounded, the chest sunken, the back markedly concave and the abdomen protrudes and is ptotic. This type of posture, dependent as it is on weakness and fatigue, tends to favor ill health. The digestive organs are low in the abdomen and the pelvis becomes rotated, leading to future digestive and pelvic complaints. The visceroptosis increases with fatigue, and indigestion and poor absorption results, which in turn increases the malnutrition. Thus the causes and the effects of malnutrition are so interrelated that a vicious cycle is established.

Irritability is another characteristic feature of the malnourished child. A healthy child is usually a happy child. The malnourished child is cross and hard to please. He is sensitive, frequently timid and cries readily. Fatigue and irritability are always closely associated during childhood and should call for a thorough investigation.

Then the general appearance of the child is quite characteristic. That freshness expected in vigorous youth is lacking. The child is haggard looking, and has a tired expression. There are circles under the eyes. The skin is pale, due usually to the anemia that accompanies the symptom-complex. In addition, upsets are frequent. Slight indiscretions in the diet lead to gastro-intestinal upsets. Constipation is usually present, as is lack of appetite. There is low resistance to disease, manifested by the frequent respiratory infections and the common childhood diseases.

To summarize briefly, a malnourished child is lacking in the usual evidences of vigorous health. He is underweight, easily fatigued, very irritable, and often backward in his school work. A very poor posture develops, which, if uncorrected, leads to ailments in later life. He is unusually susceptible to infections and minor upsets. Often he is spoken of as being a "nervous child."

Etiology.—Now what are some of the causes and what can we do to prevent the development of this symptom-complex? We all wish our children to be in the best possible health, and especially so when they enter school. If malnutrition is such a handicap to the mental, as well as the physical, development of the child, what can we do about it?

Let us review the etiological factors which bring about this condition. Malnutrition is closely associated with the economic, hygienic and social conditions of the home; but, in addition, there are dietary factors and physical

defects often found as an underlying cause. Rarely do we find a single cause. More often there are several contributing factors, necessitating a thorough study to explain fully the etiology.

Poverty not only causes the limitation of the quality and the quantity of food, but also imposes the handicap of unhygienic living. Bad hygiene, as over-crowding, lack of proper sanitation, lack of ventilation and sunshine, as well as poor personal hygiene, the amount of rest and sleep, etc., will enter into the etiology of malnutrition in some cases.

Improper home control and fatigue are important factors. Over-indulgent parents, who spoil the child and permit him to do as he desires, pampering him, allowing every like and dislike regardless of the effect upon the child's health; and then the other extreme, parents who fail to realize that the child must have some latitude, and who carry discipline and repression to the extreme. Both types of training are faulty and a nervous, malnourished child is the usual product of such supervision.

Improper feeding during infancy and improper care of congenital defects often are basic causes of malnutrition later in childhood. Various degrees of marasmus follow and this leads to the perverted metabolism. The organism rarely recovers its full power for the digestion and assimilation of food, and the resulting malnutrition is simply prolonged on into childhood.

Overactivity on the part of the child leads to a state of fatigue which is a predisposing factor in malnutrition. Music lessons, dancing lessons, movies and other entertainments prevent sufficient rest and sleep, and also interfere with out-of-door activity. Moreover, the nervous excitement from such factors has a deleterious effect upon the child. A tired, nervous child becomes irritable, unstable, fails to gain in weight and various degrees of undernourishment result.

Then, there are frequent physical defects. Eyestrain is more common than we realize and frequently passes unrecognized. It has been estimated that fifteen children out of every hundred entering school have defective vision of some type. Eyestrain causes headaches, nervousness, loss of appetite, indigestion, failure to gain and, finally, malnutrition. In addition, defective vision handicaps the child in play and in sports, thus tending to cause him to withdraw from out-of-door exercise which is so essential for proper development. A sedentary life is substituted, and this often affects the posture and general health of the individual. These children find it hard to keep up in their studies. They become discouraged and disheartened, developing a feeling of inferiority, which has a harmful effect both mentally and physically.

Enlarged tonsils and adenoids certainly in some cases are definite etiological factors. Not only do they interfere with proper aeration and act as foci of infection, but they also predispose the child to repeated illness, including the common cold, which in turn have a harmful effect upon his health.

Carious teeth likewise play a dual rôle. They act as foci of infection and also interfere with proper mastication of food, leading to digestive complaints.

Malocclusion, or poor approximation of the teeth, is a matter of great importance, often neglected. Malocclusion interferes with proper mastication, and bringing the teeth into proper alignment is followed by general improvement in health. The correction of dental deformities also has a psychological effect that is distinctly helpful.

It goes without repetition that definite disease conditions, such as heart disease, tuberculosis, syphilis, nephritis, malaria, complications following the childhood disease, pyelitis and the parasitic infections of childhood all affect the general nutrition and development. The proper handling of these conditions is of great value in the prevention of malnutrition.

Lastly, there are certain psychological factors that must be considered. Jealousy of a child toward a new arrival in the home, fear, a feeling of inferiority, life under continual

strain due to parental squabblings and disagreements, all have definite effects upon the delicate nervous system of the child. Emotional disturbances at meal time, overanxiety on the part of the parent to make the child eat, forced feedings, all lead to trouble. A psychological basis for undernourishment is very common and offers one of the most difficult problems in handling this type of case, due to the fact that it is so difficult to convince the parents of their errors and win their support for a more rational type of supervision.

Treatment.—The prevention of malnutrition resolves itself into avoiding the various etiological factors by proper supervision of the health of the child from birth. Proper feeding during infancy, early recognition of the various physical defects and their correction, and frequent routine examinations during early childhood offer the best opportunity for normal development.

Once a state of malnutrition has developed, it calls for a very careful study of the previous history and environment of the child, and a thorough physical examination. There are certain general principles about the treatment that I would like to stress.

Of first importance is winning the wholehearted coöperation of the parents. Without this aid, failure results in a great majority of cases. The parents must be shown the significance of the condition as it affects the present health of the child and, more particularly, as it affects his whole future. Once this has been accomplished, an outline of the daily routine, with avoidance of fatigue, and sufficient rest and sleep, should be given.

Regulated exercise out of doors is needed, but must be carefully supervised to avoid fatigue. A wholesome environment is important. Sufficient sunshine is needed.

Removal of all foci of infection, particularly in the teeth, tonsils and adenoids frequently leads to marked improvement. By correcting these defects, the child is made "free to gain."

The poor body mechanics demand sufficient rest and, later, gradual exercises for the correction of the defect. Many cases with marked viceroptosis are greatly benefited by proper abdominal support.

The diet calls for a well-balanced outline of sufficient caloric intake to cause a steady gain. This usually necessitates a diet suitable for a child of the expected weight, considering the height and age of the individual. A concentrated diet may be necessary where there is anorexia, in order to supply sufficient food for a gain to take place. Between-meal lunches should only be resorted to when sufficient food will not be taken at regular meal hours, and only easily digested food then should be given. Irregular meals should be forbidden. Mealtime must become an incidental part of the daily routine instead of an outstanding event, with the child playing the leading rôle. The child must be taught to eat what is put before it. If the meal is not eaten in half an hour he should be allowed to leave the table, but should have no food until the next mealtime. A few days of such routine will usually establish a good habit of eating.

The medicinal treatment of malnutrition resolves itself into using remedies that promote the general wellbeing of the child. Malt preparations are helpful. Constipation must be corrected. The anemia that usually accompanies the condition calls for appropriate treatment.

The handling of the malnourished child is not a simple problem, but, if the various therapeutic measures are carried out in detail, gratifying results can be obtained.

Address: 207 Fairmont Avenue.

EXAMINATION

The next written examination of the American Board of Obstetrics and Gynecology will be held in nineteen different cities of the United States and Canada at 2 P. M. on Saturday, March 26, 1932. The general, oral and clinical, examination will be held in New Orleans on Tuesday, May 10, preceding the meeting of American Medical Association. Reduced railroad fares will be available. For information and application blanks apply to Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania.

PLEURO-ENTERITIS *

By C. M. BRAY, M.D., F.A.C.P.
Morgantown, W. Va.

THIS is a preliminary report of a rather unusual clinical condition. During the summer of 1926 there appeared locally a parenteral infection of rather peculiar, and in many respects, puzzling qualities. Lacking a better name and for purposes of record I have called this condition pleuro-enteritis for reasons hereafter explained. Within a few weeks clinical evidence was obtained showing it to be more than a transitory, local disturbance, but one general in character: cases coming from nearby counties and states. Age and sex formed no barrier. However, my series shows a rather marked predominance among babies and children, but with these sex does not seem to be a factor. A majority of all—children and adults—came from the better class homes. There were, however, exceptions to this. Cases coming within the scope of this paper have been variously diagnosed as "Enteritis," "Summer Complaint," "Food Poisoning," "Summer Influenza," "Intestinal Influenza," and "Colitis." These diagnoses show the marked intestinal quality of the condition clinically. It is primarily a disease of warm weather. While this series includes sufferers seen in every month except February, eighty per cent were in the months of July, August, September, October, and November.

Subjectively and objectively the patients group themselves well, forming so definite a picture that the eighty cases presented in this report vary only in the severity of the subjective findings, the length of time under treatment and the yearly variations. Regarding the annual change the year 1926, while not supplying the largest group numerically showed the greatest severity: followed by a lessening in this respect each succeeding year. This possibly was due to an increase in resistance gained by the people at large.

The onset is very sudden; patients naming within the half hour the appearance of the first symptom which is usually nausea. Rapidly following are loss of appetite, frequent stools and very often vomiting. The 1926 group showed bloody stools with large amounts of mucus, reaching as high as thirty passages per day (case AJ). Blood is rarely seen now in the 1931 group. Weakness is marked within a short time. Since 1930 there have been indefinite, crampy pains along the course of the colon and in the epigastrium. In addition there is an epigastric sense of a heavy load. Some lumbar pain is noted since 1930. Loss of weight may be great, especially in babies. Usually the patient condemns some food recently eaten as the causative agent. One child was allowed to suffer for a month without treatment except home remedies before seeking medical aid.

Examination shows consistently a reddened pharynx, moderate in degree and not particularly characteristic otherwise. The temperature early varies from 99 to 102 F., usually falling the second day to subnormal. On the other hand, it may rise in the afternoons for several days. The pulse is increased in proportion to the fever. Physical examination of the chest reveals in all cases dulness or flatness posteriorly in the region of the pulmonary hilus, occasionally unilaterally. Here the breathing is roughened and moderately tubular. The base, or bases, posteriorly are always flat to percussion; both sides as a rule. Tactile fremitus is diminished as are whispered sounds. Breathing is somewhat distant, with scattered, short, pleuritic rubs being heard. Fluid has not been found, nor is pain a common complaint. No cardiac pathology relative to this condition has been

* Original paper.

discovered. Abdominal palpation frequently reveals moderate amounts of gas and a palpable colon. Tenderness is not marked; neither is rigidity. When seen late the abdomen is often flaccid.

Etiologically many problems presented themselves. Reasoning from the constant pharyngeal irritation it seemed rational to assume the portal of entry to be the throat. With the aid of Dr. C. C. Fenton, of the West Virginia University faculty, bacterial cultures from this source were grown with the usual mass of organisms appearing. Subcultures from the less common colonies were made and a suspension of this sprayed upon the throats of several rabbits. The suspension was also injected intravenously into these same rabbits, but they remained distressingly healthy. Bacteriological examination of the stools was undertaken, but this was soon found to be impractical under the conditions such as we encountered. Nevertheless I believed the pharynx to be the entrance point and located a student in West Virginia University (RAB) who volunteered for experimentation. A swab was taken from the throat of a patient during the third day of her illness and transferred directly to the pharynx of this volunteer. The transfer was made 4:05 P. M., August 9, 1931. On August 11, at 6:00 P. M., upon awakening from a sleep he felt nauseated, refused food and was conscious of a heavy sensation in his epigastrium. Frequent stools began soon afterwards. August 12, at 3:00 P. M., he presented himself for examination and the typical objective findings described above were present in the chest and throat. While the definite organism has not been found, I believe it fair to assume that the condition is an infection entering through the pharynx and offer the following support: (a) The above mentioned experiment, even though unverified by others, seemed definite; (b) several members of one family became ill within a short period after exposure to another member suffering from the disease; (c) a boy returned from camp after a week's absence and infected a younger brother—there were no known cases in the neighborhood; (d) the condition also spread through another family until all the members were infected save one.

Judging from histories and the above experiment the incubation period is short. As may be expected a definite history of exposure relative to the exact time was difficult to obtain, but in several incidences the period appeared little longer than a day; in the case of the volunteer student the time was practically fifty hours. The incubation period is possibly from one to three days. The geographical grouping of the patients seems to refute the idea that the infection may be spread through some common food or water supply. Contagion is likely carried by direct contact.

The disease is not self-limited. Eight of the series had been ill periods of time varying in length from one to eight weeks without any improvement, before receiving adequate treatment. About half of these had received active care directed towards the relief of an intestinal condition. It is true, especially now, that some of the cases are abortive and tend to clear up even without treatment. Apparently there is no immunity established as several second infections were noted in succeeding years.

Fortunately, or pathologically speaking, unfortunately, there were no deaths. Therefore, the pathology was sought in the x-ray laboratory. Dr. S. J. Morris, West Virginia University, made complete flouroscopic examinations of two of these cases (DLG-RAB). One had contracted the disease in the usual way and was under my professional care and the second was the student volunteer previously mentioned. The chest and gastro-intestinal findings were identical. The pulmonary hilus shadow on each side was about two inches wide. The pleurae at the base were markedly thickened extending from the mid-scapular region to the dome of the diaphragm. Other pulmonary tissue seemed

uninvolved. The stomach presented a picture of pylorospasm with rather rapid, ineffective waves immediately after receiving the barium, but very shortly becoming extremely sluggish, requiring several hours to empty. Twenty-four hours later the colon showed cecal stasis and a marked constriction throughout its entire course. Case (DLG) was examined one week later without having received any treatment directly to the intestine; but after a clinical cure had been affected; all of these findings were gone. No blood examinations were made.

Treatment was at first along orthodox lines such as restriction of diet and efforts to decrease the diarrhoea. The results obtained were very unsatisfactory. Following the full realization of the chest condition efforts directed towards the eradication of the pathology there were more encouraging and rapidly the intestinal factor was disregarded even to the extent of allowing a full diet following the disappearance of the anorexia. During the early days counter irritation and other measures for the relief of the pleuritic thickening were often failures, but during the present year are fairly effective. The treatment which proved a specific was ultra violet light from an air-cooled quartz mercury vapor lamp. The number of treatments per patient varied from one to thirteen. However, only two in the sixty-seven of this series so treated required more than five to complete a clinical cure. Very few of these received medicines or made drastic dietary changes. Also relapses were unknown under this régime.

The conclusion drawn from these observations, admittedly imperfect, is that we are dealing with a respiratory infection setting up a secondary reflex spasticity of the gastro-intestinal tract through the greater and lesser splanchnic nerves. Or less probable, I believe, a secondary abdominal infection by means of the lymphatics.

CASE REPORTS

MASSIVE PNEUMOTHORAX

By R. D. Roller, M.D.
Charleston, W. Va.

Mrs. S. J., age 19, married, two children. Patient was taken ill sometime in November with hyperemesis gravidarum. During one of these vomiting attacks she began to cough. This cough became very severe. She was admitted to a hospital in the city and was given glucose intravenously which stopped the vomiting. She continued to cough and occasionally raised some blood. The cough was productive.

About the middle of December after going home and while sitting up she had a severe attack of coughing which lasted an hour. At this time she raised great quantities of blood and had severe pain in the right chest. When

FIG. 1. Massive penumothorax, right chest, with mediastinum pushed over into the left thoracic cavity. December 25, 1930.

she got in bed she could not turn on account of the pain. She suffered moderate dyspnea. The pain and dyspnea continued to increase and when I saw her on December 25, 1930,

she was in extreme pain and had very marked dyspnea.

Past History.—Negative except for the usual childhood diseases.

Family History.—No tuberculosis in immediate family. Uncle on father's side had

FIG. 2. Restoration of heart to normal position and beginning expansion of right lung. February 18, 1931.

tuberculosis. No family history of cancer, heart or kidney disease.

Examination showed a patient slightly cyanotic, markedly dyspneic and emaciated. Head, including eyes, ears, nose, and throat was normal, no thyroid enlargement. Examination of chest showed the heart pushed over to the left chest wall and flatness over the entire right chest with absolute absence of breath sounds. Breath sounds in the left chest were not very distinct. Examination of the abdomen showed the liver pushed down to the crest of the ilium. Pelvic examination showed pregnancy of about two and one-half months. The next day the patient was taken to the Charleston General Hospital and x-ray examination disclosed the following:

"Examination of a flat film of the chest shows no unusual amount of penetrability of the right chest, the right diaphragm is forced very low, to the level of the second lumbar vertebra, to be definite. The left diaphragm is in normal position. There are no definite lung markings made out anywhere on the right side, and the entire mediastinum, with the entire heart, is moved into the left chest. The appearance suggests an unusual pneumothorax, with increased introthoracic pressure on the right, the cause of which is not clear." (Fig. 1.)

Some air was removed by aspiration and the patient kept in bed and treated expectantly.

Laboratory reports were as follows: Blood count—erythrocytes, 5,100,000; abnormal erythrocytes, none; coagulation time, three minutes; haemoglobin, 80; color index, .784; leucocytes, 11,000; polynuclear, 76; small lymphocytes, 18; large lymphocytes, 6; eosinophiles, 0; other forms, 0. Urinalysis: Negative except for faint trace of protein.

FIG. 3. Complete restoration of right lung to normal. November 15, 1931.

Sputum examination showed no acid fast organisms.

She improved slightly but continued to have nausea and vomiting at intervals. X-ray taken on February 18 was as follows:

"Examination of stereoscopic negatives of the chest shows the pneumothorax of the right side to be still complete but the heart has moved over to more nearly its proper position in the chest and there seems to be no invasion of the left chest by the right lung, as was the case at previous examination. The lung markings in the left chest are very marked, especially in the upper and we have suspicious but not definite evidence of an old tubercular lesion present." (Fig. 2.)

On February 26, 1931, it was decided to induce labor. After this she continued to improve rapidly and was permitted to go home on March 11 with almost complete expansion of the lung. Figure 3, taken November 15, 1931, shows a complete restoration of the lung. She looked perfectly well, had gained sixty pounds in weight and there was no evidence of any pathology in the lungs.

HEADACHE

Morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis incia, acetanilid, chloral hydrate and their derivatives are drugs that may be dangerous. Any one who suffers often or even occasionally with a severe headache desires to stop the pain. Most of the drugs mentioned above relieve pain by blunting or diminishing sensibility, Solon R. Barber elucidates in the March issue of *Hygeia*.

In this way the real source of the headache is not cured. Some of the chief causes are head injuries, eyestrain, digestive disturbances, and nervous disorders. Headache is an initial symptom of numerous acute diseases. Many of these drugs have a depressing effect on the heart. Other remedies are mere laxatives that could at their best cure a headache caused by digestive disorders.

If you are seeking headache relief determine the real cause and in an emergency be cautious in the use of remedies that contain any of these drugs. If present, these drugs must be listed on the wrapper.

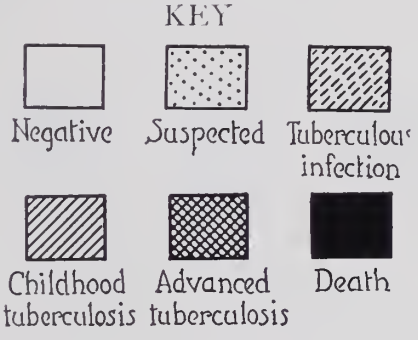
PURPOSES OF DOCTORS

The primary duty of a doctor is to prolong life. His second purpose is to assuage pain; another is to prevent a warped personality from growing out of mental suffering. These three duties of the doctor are sufficient evidence to justify his existence, Dr. Bernard Pantus maintains in *Hygeia*.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

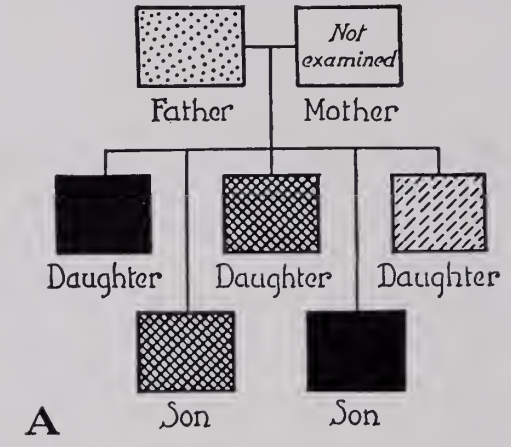
Tuberculosis associations are this year emphasizing the importance of following every case of tuberculosis back to its source. "Tuberculosis causes tuberculosis—every case comes from another" is the slogan. Few physicians have been more conscious and successful in tracing every wisp of smoke back to the embers responsible for it than J. A. Myers of Minneapolis. His special interest is the discovvery of early lesions in children, but with the coöperation of a very efficient health department, he has found that tuberculosis is a group disease rather than an individual problem. The "group" is usually, but not always, a family. In a recent article, he cites and illustrates a number of typical case histories, some of which are here reproduced.



Investigation of family A began when a daughter, who later died of tuberculosis, consulted a doctor. Soon after her death, the son fell ill; his disease is now advanced. About two years later, the second daughter developed tuberculosis. Within another year, another son developed tuberculosis and died. Since both parents refused examination, the exact source is unknown, but the father is suspected of having tuberculosis. It is reasonable to assume that if disease in the father had been discovered years earlier, this disaster might have been averted.

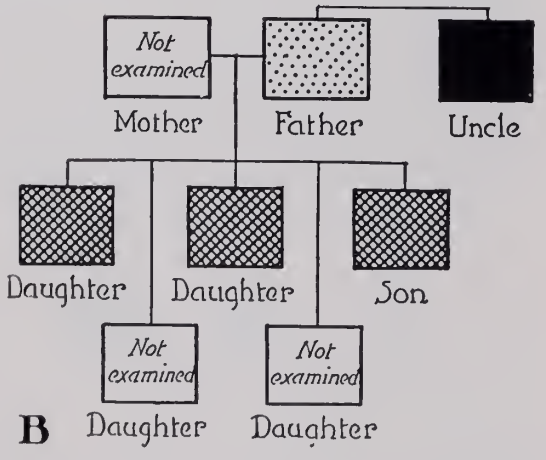
The source of disaster may not always be a resident of the home. In family B, a daughter of 20 years came in for examination. She had frank tuberculosis. An uncle who lived nearby had had the disease for a long time. Contact with him had been intimate and prolonged. Examination of him

showed that he had huge cavities in his lung and his sputum teemed with tubercle bacilli. The father is suspected of having tuberculosis but has not sub-

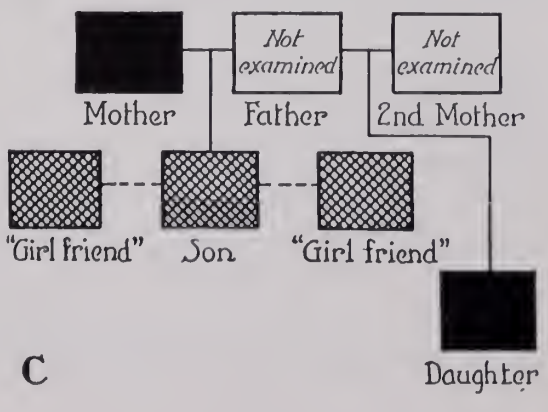


mitted to an examination. An interesting fact is that all three children developed clinical disease at the age of 20.

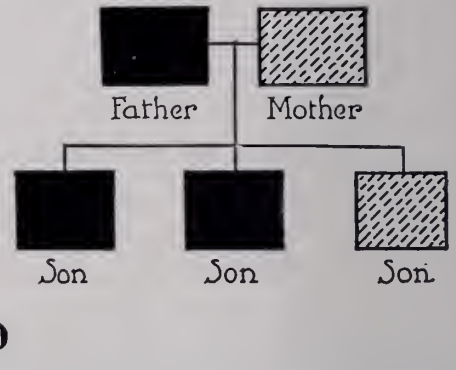
Family C illustrates how infection may be spread



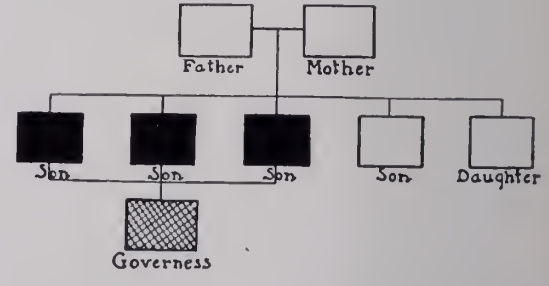
in a family and then carried outside the family. The mother died of tuberculosis many years ago, when the son was small. He was not well for a time after, but apparently regained his health. When he reached



young adult life his father had remarried and there was a little daughter of two or three years who suddenly developed tuberculous meningitis and died. Not long after the death of the little daughter the son began to show some evidence of failing health. On examination he was found to have an extensive tuberculous process. He was sent to an institution where his symptom subsided. When he was able to be about he associated with a young lady whose x-ray pictures had previously been entirely clear. He still had tubercle bacilli in abundance in the sputum. After approximately six months of this association the young woman began to cough. Ex-



amination showed that she had a very extensive tuberculosis of one lung. She immediately was made a bed patient. A little later this young man became associated with another young woman, and after some time, although her x-ray films had previously been clear, she fell ill with extensive tuberculous disease.



The father of Family D has suffered for some time from what he believed to be bronchitis. When he reported for examination, he was found to have an extensive tuberculous process and many tubercle bacilli were present in the sputum. The source of his exposure was not known but his family history revealed other cases of tuberculosis. There were two sons in the family when the diagnosis was made. The younger, a small infant, soon developed tuberculous meningitis and died. The other son is apparently well, although he has a 3 plus tuberculin

reaction. After this man had gone to a sanatorium a third son was born. The father became extremely homesick in the sanatorium and returned to the home. It was not many months later until this third infant son died of tuberculous meningitis. The father than went to a government hospital broken-hearted, for he was firmly convinced by his own observation, that he had infected the two infant sons who had died of tuberculosis.—*Tuberculosis, A Family Disease.* J. A. Myers, Jour, Outdoor Life, October, 1930.

* * *

That the disease may spread in the family through the agency of a servant is illustrated by a case quoted by Myers elsewhere. In a luxurious home in Paris, father and mother in the best of health and with excellent past histories, three boys, one after the other, almost at the same age, died of tuberculous meningitis. Investigation led to the governess, more than 60 years old and a sufferer from chronic bronchitis, emphysema and asthma, which proved to be a case of torpid, senile tuberculosis. She was detached from the family. Nothing else in the home was changed. Subsequently two children were born and nursed exclusively by the mother. "One is now approaching 30 years, the other is a superb girl of 25 years."

BLIND CHILDREN

Marked improvement in the health and vision of the students in the School for the Blind at Romney who are being treated for hereditary syphilis is reported by the State Health Department, through the active interest of which these children are receiving treatment. Eleven of the children in the school ranging in age from seven to twenty-four years are taken weekly to the clinic in Keyser for treatment where Dr. J. H. Wolverton and Miss Reba Bess of the Mineral County Health Department contribute their services in an effort to overcome the effects of the disease which is causing their blindness.

It was two years ago that the first physical examinations of students at the School for the Blind and Deaf were conducted by Dr. W. T. Henshaw, state health commissioner and members of his staff. A test for syphilis which was one of the features of the examinations revealed the fact that 15% of these children were suffering from the results of syphilis which they had inherited. It is a recognized fact that syphilis and insanity are the only known diseases that can be transmitted from parent to offspring. Authorities state that frequently babies born with syphilis do not show early symptoms but if treatment is not begun promptly, blindness is one of the many conditions that may result. It is stated that frequently mothers are unaware of the fact that they are suffering from syphilis and for this reason an examination of all expectant mothers is advised since early treatment of the mother will often prevent the child from being born with the disease.

One of the older students in the school who is receiving treatment is an orphan who has been in the school for years but it was not until last year that her case was diagnosed, since previous to that facilities were lacking. She was not born blind but gradually lost her sight. If treatment had been begun years ago, blindness could have been prevented, it is stated. However, in spite of the omission of treatment for so many years she is improving and by the time she has had the three or more years of treatment recommended by the health authoritis, it is hoped that an operation will further restore her vision.

One child, who was not only blind but was gradually becoming deaf, has had her hearing restored since taking the anti-syphilitic treatments.

Following the examination of the blind children in the school, Mrs. Ada C. McDermott of the Bureau of Venereal Disease of the State Health Department worked out a plan for their treatment as no funds were available for this work. The interest of Dr. J. H. Wolverton of Keyser was secured, and he generously contributed his services, giving free treatment to these unfortunate children. Arrangements for transportation were made and now the children are taken weekly on the twenty-mile trip from Romney to Keyser. Miss Reba Bess, county health nurse, assists Dr. Wolverton in this work, the State Health Department contributing the drugs necessary. The superintendent of the School for the Blind, Parley DeBerry, is giving his active support to the work.

Of course, many of the cases of blindness in the school are attributable to causes other than syphilis and in some instances surgical treatment is all that is necessary to restore or improve the vision of the child. This phase of the work is being carried on through the generosity of Dr. J. E. Blaydes of Bluefield, who is contributing his services to this humanian work. The treatment for syphilis is but another phase of the program of restoring sight where possible.

PRESIDENT'S PAGE

As an association, we can no longer ignore present laws governing the State Compensation Department. The committee appointed by the last legislature to investigate this department demonstrated conclusively that neither the working man nor the private physician received the proper consideration before this body. It further demonstrated that some contract hospitals had robbed the working men of most of the benefits of this Act; as many of us well know.

To take a certain amount each month from the miner's wages for the establishment of a fund to insure proper hospitalization and medical attention in illness, is ideal. This amount, however, should not be large enough to include industrial injuries nor should it be paid to any hospital unless it renders specific service.

Section 27 of the law covering the Compensation Department provides that $800 may be spent for medical, surgical, and hospital care for the injured employee. Under the present contract hospital system, not one dollar of that amount is available for him. The coal company is entirely relieved of the duty of furnishing hospital or surgical care to any injured employee. In most cases, the company officials contract with some hospital doing that work, to care for the miner or his family in illness. The company agrees to collect a certain amount from each miner every month to be paid to the hospital.

The hospital doing this work receives no compensation for treating any injured employee except the monthly check from the payroll. Each day spent in that hospital by an injured employee is a complete loss to the institution. It is no wonder that many are sent home before it is safe to go; while many others receive no hospital care when in need of it.

Another serious objection to this form of work is that the injured employee has no appeal and no assistance from the Compensation Department in selecting another hospital or surgeon because of improper attention. If he goes to another, in order to save his life or limb, he must bear personally all his expenses.

The very basic principles for which the Compensation Laws were passed are rendered null by such contracts. The injured man is denied the choice of physician or hospital. The corporation is relieved of the burden of caring for the injured, this expense being borne by the employee.

Surgeons doing this work are entirely dependent upon the good will of the company officials for a continuation of their contracts, and are, therefore, not in a position to give a fair or unbiased opinion regarding the degree of permanent disability. The Compensation Department accepts their statements as final, notwithstanding unrefutable evidence to the contrary by skilled private surgeons.

I refer those who believe in contract practice to an article by Dr. R. G. Leland in the *A.M.A. Journal*, Vol. 98, No. 10, March 5, 1932.

Albert H. Hoge

President.

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NORMAN BAKER vs. A.M.A.

Although not at all unexpected, the recent verdict for the defense in the suit of Norman Baker against the American Medical Association is both comforting and encouraging. It is comforting because the American Medical Association stood its ground to the very end of the trial. It is encouraging because a jury of farmers and merchants favored the logic of scientific medicine to the ballyhoo of a cancer quack.

For some years Baker has operated a cancer quackery at Muscatine, Iowa. His institution is advertised by a Baker-owned radio broadcasting station and by a Baker-owned magazine known as T-N-T (The Naked Truth). In June, 1930, Baker's income was $75,232. Shortly thereafter he was exposed by the *Journal* of the American Medical Association. His income then dwindled until, in January, 1932, he took in only $7,008. As a result of this loss, Baker brought a libel suit against the American Medical Association for half a million dollars.

The case came to trial in the federal district court in Davenport, Iowa, on February 9, 1932, and the trial was concluded on March third. The jury verdict, reached on the first ballot, was, "We, the jury, find for the defendant."

Perhaps the most interesting development of the trial was the testimony involving five "test" cases that had been exploited by Baker in his advertising propaganda. Baker claimed "cures" on all five of these cases after they had been given up by regular physicians. The American Medical Association proved that Baker was still claiming "cures," long after the five patients were in their graves.

Throughout the trial and during the closing arguments to the jury, the American Medical Association did not once back down from the original contention that Baker was a "quack." The defense attorney, addressing the jury, said, "We call Baker a quack and we are not here to apologize for it." Instead of adopting a conciliatory attitude in an effort to win favor from the jury, the American Medical Association defended its position with such honest vigor that Baker was publicly branded for the charlatan he is. That's the way to do things.

Expecting no less from the parent of organized medicine, we can only say that once more the American Medical Association has measured up to our fondest expectations.

DOCTORS AND POLITICS

The JOURNAL is interested to note the considerable number of doctors throughout the state who are candidates for public office, subject to the May primary election. With problems of taxation, unemployment and poor relief facing the state and national governments we feel that the medical profession can play an important rôle by lending its personnel to the legislative and administrative branches. The philosophy of the average man of medicine, tempered as it is by years of service to suffering humanity, should certainly prove a valuable ally to the forces of intelligent legislation and good government.

Looking over the list of candidates we find two of our members who are candidates for the state senate. They are Dr. James R. McClung, Richwood, and Dr. A. G. Rutherford, Welch. Dr. McClung served in the senate several years ago and has a thorough knowledge of West Virginia's medical and economic problems. Dr. Rutherford has had a wide experience in the coal fields of southern West Virginia and the announcement of his

candidacy has met with a most favorable response.

Included in the list of candidates for the state legislature we find the names of Dr. R. H. Dunn, South Charleston; Dr. T. E. Vass, Bluefield; Dr. M. H. Tabor, Crumpler; Dr. Rush F. Farley, Delbarton; and Dr. J. I. Justice, Logan. Dr. George Hull, Durbin, who was one of the Republican leaders in the 1929 legislature, may also become a candidate. It is thought that Dr. M. J. Lilly of Frazier's Bottom, Mason County, who served in 1931, will also be a candidate for reëlection. Dr. Tabor of McDowell County has been a most valuable legislative leader for the past several terms.

The doctors who were members of the 1931 legislature will not be candidates for reëlection. Dr. B. S. Rankin, Kingwood, is now superintendent of the state insane hospital at Spencer. Dr. Ellis Frame, Fenwick, who was chairman of the Committee on Medicine and Sanitation in 1931, is unable to spare so much time from his practice and has declined to reënter the race.

There are two additional legislative candidates of interest to the medical profession. The first is that of Mrs. S. W. Price, wife of Dr. S. W. Price of Scarbro in Fayette County. The second is that of Mrs. Anna V. Hunter, sister of Dr. N. L. Price of Marlinton in Pocahontas County. Both Mrs. Price and Mrs. Hunter are capable and well qualified and would add much color and dignity to the legislative assembly.

Dr. N. R. Price, who is secretary of the Greenbrier Valley Medical Society, is also a candidate for office. Dr. Price is making the race for delegate to the Democratic national convention as a supporter of Governor W. H. Murray of Oklahoma. Dr. M. T. Morrison, Sutton, is also a candidate for delegate to the Democratic national convention. Dr. Morrison has declared for Governor Franklin D. Roosevelt.

Another county society officer out for public office is Dr. H. H. Farley, president of the Logan County Medical Society. Dr. Farley is a candidate for sheriff of Logan County and is expected to make a splendid race. He has been one of the leaders of the profession in Logan County for many years.

Unquestionably there are other doctors in the state who are candidates for public office. If there are, the JOURNAL would like to have their names so that a complete list may be compiled. We congratulate the Association on its candidates and, to the candidates themselves, we extend our hearty wishes for success.

SUMMERS COUNTY

On March 12 the Summers County Medical Society became the first county medical society in the state to report its 1932 membership 100 per cent paid up. The Summers society is apparently in a thriving condition for, in addition to its 100 per cent record, a number of new doctors have been taken into the society since 1931. The President of the Summers society is Dr. Paul A. Ford of Talcott. The Secretary is Dr. A. P. Hudgins, Hinton.

The deadline date for 1932 dues is April first. After that date all unpaid members are placed on the Association's delinquent list. They will remain on the delinquent list until their 1932 dues are taken care of. According to present indications, there will be a number of other county medical societies in the 100 per cent class by the first of April.

It is very gratifying to note that the dues for 1932, in spite of the economic depression, are coming in even better than in 1931. We interpret this as a display of greatly increased interest in the Association and its activities. Because of its activities and its influence, we feel each year that the Association has gained in prestige and good-will over the year before. With Summers County leading the way, we hope that at least a dozen more societies will have clean slates when the delinquent list is made up.

OBITUARY

DR. JOSEPH E. RADER

Dr. Joseph E. Rader, Huntington, died at the Memorial Hospital on February 26, 1932, death terminating a diabetic coma into which he had fallen. He was one of the best known physicians in West Virginia, having held many honors. Dr. Rader was a graduate of the College of Physicians and Surgeons at the University of Maryland at Baltimore, of the class of 1894. He was a past president of the West Virginia State Medical Association, a member of the Southern Medical Society and the American Medical Association, and a fellow of the American College of Surgeons. After his retirement as president of the State Association, Dr. Rader continued to serve on the council until two years ago. In recent years he had been active on the staff of the Kessler-Hatfield, now Memorial Hospital. He is survived by his widow and one son. Dr. Rader died at the age of sixty years.

DR. JOHN E. CORBIN

Dr. John E. Corbin, Clarksburg, died at his home on the 16th day of December, 1931. He was a well-known Clarksburg physician, having practiced for many years in this state. He graduated in 1907 from the College of Physicians and Surgeons of Baltimore.

DR. ELBERT F. PETERS

Dr. E. F. Peters, of Princeton, died of a self-inflicted wound from a .32 calibre pistol, on February 29, 1932. The bullet entered behind the right ear and passed through the head. Dr. Peters was one of the eminent physicians of the county and section. He attended the College of Physicians and Surgeons at Baltimore and took post graduate courses in several of the leading universities of the country. Dr. Peters is survived by his father, his widow and four children. Continued illness is thought to have been the cause for the suicide. Since 1915 Dr. Peters has not been in good health. Recently he suffered an attack of influenza but kept on working.

DR. JOHN FREELAND

Dr. John Freeland, White Sulphur Springs, died at the Johns Hopkins Hospital on January 19, at the age of fifty-eight years. Dr. Freeland was graduated from the Bellevue Hospital Medical College, New York, in 1894. Dr. Freeland suffered from acute dilatation of the heart.

DR. DENNIS D. CASTO

Dr. Dennis D. Casto, Ripley, died at his home on January 18, at the age of sixty-four. Death was attributed to carcinoma of the liver. He was a graduate of the University of Louisville School of Medicine in 1891, and has practiced many years in this state.

OUR MISTAKE

The Journal offers its apology for incorrectly reporting the cause of the death of Dr. E. R. Logan of Omar in the March issue. Dr. Logan died at the Hatfield-Lawson Hospital on January 13, 1932, after a brief acute illness of pneumonia complicating a long standing mitral stenosis with dilated heart. The error in question appeared in the report of the February meeting of the Logan County Medical Society. The mistake was the result of faulty proof-reading, and we are sorry.

TUBERCULOUS VETERANS

A village for tuberculous war veterans! A health venture of this kind exists in the county of Kent in England. Around a sanatorium for ex-service men is a village in which convalescent and "cured" patients live with their families.

The town is self-supporting. Four workshops keep the veterans busy. Products of their labor are sold in the British market. Their little homes are comfortable, and the village authorities believe that it is just as important for the tuberculous man to have dollars in his pocket as it is for him to be free of active disease of the chest. Among the 300 children of the village, not a child has developed tuberculosis.

Dr. J. B. McDougall, director of this unique community, describes it in the March issue of *Hygeia*.

COUNTY SOCIETY NEWS

CENTRAL TRI-STATE

The annual spring meeting of the Central Tri-State Medical Society will be held at Charleston on May 19, 1932, according to a recent announcement by Dr. James S. Klumpp, Huntington, secretary of the organization. Dr. Klumpp stated that the scientific session would take place in the Daniel Boone Hotel.

The May 19 meeting will be the first Tri-State session ever held in Charleston and an unusually large attendance is expected from the southern section of West Virginia. The Kanawha Medical Society at Charleston is taking an active interest in the plans and preparations for the event and a local committee has been appointed to work with the Tri-State officials.

The Charleston meeting, according to present plans, will start at 3 o'clock in the afternoon instead of 2 o'clock, which has formerly been the usual meeting hour. Three scientific papers and discussions will be presented during the afternoon. There will then be a recess period followed by a banquet at the hotel. Plans are now under way for an entertainment and dance for the visiting doctors and their wives immediately after the banquet. The dance will be held in the ball room of the Daniel Boone.

The program for the May 19 meeting has not yet been announced. The program will probably be completed this month and will be announced in the May JOURNAL.

CENTRAL WEST VIRGINIA

One of the most interesting and best attended meetings in the history of the Central West Virginia Medical Society was held in the Masonic Hall, Sutton, on the evening of February 24. A fine dinner was served to the doctors and their wives prior to the scientific program and there were more than fifty members and guests in attendance.

The scientific program was presented by Dr. W. M. Sheppe and Dr. J. O. Rankin, both of the Wheeling Clinic, Wheeling. Dr. Sheppe gave a paper on "The Management of Diabetic Patients," and Dr. Rankin talked on "The Treatment of Fractures." Both papers were practical and of the highest order. Discussion of Dr. Sheppe's paper was opened by Dr. W. W. Point, Charleston. Discussion of Dr. Rankin's paper was opened by Dr. W. B. Morrison, Columbus, Ohio. Visiting doctors from Weston, Buckhannon, and elsewhere, also took part in the discussion.

R. A. MCCOSH, Secretary.

LINCOLN-BOONE SOCIETY

A new county medical society came into being on the evening of February 19 when the doctors of Lincoln and Boone counties formed the nucleus for a permanent organization at the Masonic Temple, Madison. Officers of the new organization include Dr. J. C. Kessler, Hamlin, president; Dr. A. J. Hatfield, Madison, vice-president; Dr. George W. Walden, West Hamlin, treasurer, and Dr. H. H. Howell, Madison, secretary.

The new society plans to hold regular meetings on the third Friday of each month, alternating between Hamlin and Madison. It is felt that a real society can be maintained in Lincoln and Boone counties and the doctors expect to petition the West Virginia State Medical Association for a permanent charter at the Parkersburg meeting next June.

Those present at the February 19 meeting were Dr. Kessler, Dr. Hatfield, Dr. Walden, Dr. Howell, Dr. Edward Smoot, Madison; Dr. Ray Frame, Sharples; Dr. A. M. Price, Madison, and Dr. M. F. Brown, West Hamlin. Other doctors who expect to join the new society include Dr. D. F. Pauley, Jeffrey; Dr. A. E. Glover, Van, and Dr. F. G. Prather, Wharton.

Dr. E. B. Henson and Dr. John E. Cannaday, both of Charleston, were the essayists at the March 18 meeting of the Boone-Lincoln Medical Society which was held in the Masonic Temple at Madison. Dr. Henson spoke on "Arthritis," and Dr. Cannaday on "Cancer of the Stomach." Both papers were freely discussed. Other visitors present included Dr. P. E. Hale of Lynch, Kentucky, and Mr. Joe W. Savage, state secretary.

HARRY HOWELL, Secretary.

KANAWHA COUNTY

Dr. B. I. Golden, Elkins, was the scientific essayist at the March 8 meeting of the Kanawha Medical Society, which was held in the public library building, Charleston. His subject was, "In-

terrelation of the Gall Bladder, Appendix, and Intestine in Abdominal Conditions." This was a highly interesting presentation and was ably discussed by Dr. J. Bankhead Banks, Dr. G. B. Capito, and Dr. W. P. Black.

Also at this meeting Dr. J. Ross Hunter, Charleston, presented an interesting case of Dystrophy of the lower extremity in a girl of four years.

M. F. PETERSEN, Secretary.

PRESTON COUNTY

Dr. Harold Miller of Eglon was elected president of the Preston County Medical Society at Hopemont on the evening of February 23, 1932. Dr. Miller succeeds Dr. R. D. Harmon, Kingwood, who served as president during 1931. Other officers elected at the February 23 meeting were Dr. E. D. Wise, Rowlesburg, vice-president, and Dr. F. D. Fortney, Hopemont, secretary-treasurer.

PARKERSBURG ACADEMY

A dinner meeting of the Academy of Medicine of Parkersburg was held at the Chancellor Hotel on the evening of March 3 with twenty-one members and visitors in attendance. The scientific paper was presented by Dr. W. E. Hoffman, Charleston, on the subject, "Some Phases of Prenatal Care." This was a most interesting paper and was freely discussed.

Mr. Joe W. Savage, state secretary, was also present at this meeting and discussed further plans and arrangements in regard to the state meeting in Parkersburg next June. Dr. R. H. Boice, president, was confined to his home by illness and Dr. R. H. Wharton presided at the meeting.

JOHN H. GOFF, Secretary.

HARRISON COUNTY

New officers of the Harrison County Medical Society for 1932, who were elected at the January meeting, are Dr. J. F. Williams, president; Dr. Harry H. Esker, vice-president; Dr. Joe R. Carder, secretary, and Dr. Robert C. Hood, treasurer. Dr. Williams was formerly secretary of the society and has succeeded Dr. J. E. Wilson as president.

Delegates at the state meeting at Parkersburg next June will be Dr. W. T. Cocke, Dr. Frank V. Langfitt, and Dr. Carder. Alternates are Dr. C. F. Fisher, Dr. W. W. Spelsburg, and Dr. C. O. Post.

A called meeting of the Harrison County society was held at the Stonewall Jackson Hotel on February 14 for the purpose of adopting suitable resolution on the death of Dr. V. A. Selby, former county health officer. Dr. Selby died at Sharpsville, Ohio, on February 11, 1932.

Dr. C. C. Greer, Clarksburg, was the scientific essayist at the March 3 meeting of the society, presenting a most interesting paper on "Avertin Anesthesia." Discussion was opened by Dr. H. H. Haynes. Preceding the scientific program, a dinner was served to the members at 6 o'clock.

JOE R. CARDER, Secretary.

CABELL COUNTY

Dr. James S. Klumpp, Huntington, spoke at the February 25 meeting of the Cabell County Medical Society which was held at the Hotel Pritchard, Huntington. His subject was "Cæsarian Section as an Elective Procedure in Surgical Obstetrics," which brought forth considerable discussion. Dr. W. Byrd Hunter gave an interesting case report at the meeting on "Diabetes Insipidus."

At the March 10 meeting of the society, also held at the Hotel Pritchard, Dr. G. A. Ratcliff gave an excellent paper on "Non Surgical Treatment of Gonorrhea in the Female."

A good attendance turned out for both of these meetings.

W. W. STRANGE, Secretary.

OHIO COUNTY

Dr. James D. Heard, Pittsburgh, was the scientific essayist at the March 4 meeting of the Ohio County Medical Society which was held at the Ohio Valley General Hospital, Wheeling. Dr. Heard's subject was "Why Collect Old Medical Books?" Discussion was opened by Dr. A. K. Hoge, Dr. J. P. Cole, and Dr. C. H. Keesor.

A talking motion picture on "Surgical Technique" featured the March 18 meeting of the society, which was also held at the Ohio Valley General Hospital.

Dr. W. P. Sammons, president, presided at both meetings and there was a fine attendance for each session.

H. C. HARPFER, Secretary.

MARSHALL COUNTY

A most interesting meeting of the Marshall County Medical Society was held at the Merry Tavern, Moundsville, on the afternoon of February 4 with Dr. O. P. Wilson, president, presiding. The first order of business was the report of the secretary, Dr. J. A. Striebich, on the conference of county society secretaries which was held at the Association headquarters in Charleston on January 18, 1932.

The scientific paper of the evening was presented by Dr. W. M. Sheppe of the Wheeling Clinic, on "Treatment of the Anemias." Dr. Sheppe said that eight out of ten patients entering hospitals had a second anemia. He spoke of the method of transfusion, describing the technique of the late Dr. Aikman. The paper was greatly enjoyed by all members present. Following Dr. Sheppe's paper, a fine dinner was served.

Dr. Howard T. Phillips and Dr. William J. Morginson of Wheeling were the guest speakers at the March 8 meeting of the society, which was also held at the Merry Tavern. The subject was "Common Forms of Skin Eruption," illustrated with lantern slides.

J. A. STRIEBICH, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its March meeting at the Hatfield-Lawson Hospital on the evening of March 16 with the excellent attendance of twenty-five members and visitors.

Dr. Lawrence W. Lawson of Logan gave a very interesting case report. Dr. Archer A. Wilson, Charleston, addressed the society on "The Diagnosis and Treatment of Acute Brain Injuries." Dr. Russel Kessel, Chief Medical Examiner of the West Virginia Workmen's Compensation Department, Charleston, addressed the society on "Workmen's Compensation and Its Relationship to the Industrial Physician." Many of the members joined in discussion of these subjects and an especially interesting and helpful round-table discussion of compensation problems was held after Dr. Kessel's address.

We are expecting Dr. Albert H. Hoge, the president of the state society, together with Dr. Blaydes of Bluefield, for our next meeting on April 20.

FRED E. BRAMMER, Secretary.

MERCER COUNTY

The regular meeting of the Mercer County Medical Society was held in the Memorial Building, Princeton, on the evening of March 17 with twenty members and four visitors in attendance. A motion to meet monthly, except in July and August, was carried. Dr. W. W. Harloe, Dr. P. R. Fox, and Dr. H. B. Luttrell were appointed to serve as the society's program committee for the next three months.

The scientific essayist of the evening was Dr. J. Ross Hunter, Charleston, who read a paper on "Puerperal Infection." This was presented in a very efficient manner and was thoroughly enjoyed. The paper was freely discussed by most of those present.

Dr. Sam Holroyd, county health officer, discussed the importance of reporting all infectious diseases. A talk on the same subject was made by Dr. David Littlejohn of the State Health Department, Charleston.

A committee consisting of Dr. J. R. Vermillion, Dr. Sam Holroyd, and Dr. J. I. Markell was appointed by the president to draw up suitable resolutions on the death of Dr. E. F. Peters.

R. R. STUART, Secretary.

BACTERIA FARM

The smallest farms in the world are four inches in diameter and one-half inch deep. These are the bacteriologist's culture dishes, John Koopman maintains in *Hygeia*. It is true that bacteriology and agriculture have many points and problems in common. The bacteriologist must plant specimens of bacteria, and the farmer, seeds to identify the represented sample. Both must be careful of the temperature, the amount of light and water and the kind of soil.

Gelatin or agar, a seaweed found in Japanese waters, is used for the culture of the bacteriologist. When this jellies, a sterilized wire is used to transfer the organisms to the culture dish. After the dish is covered and left for twenty-four hours, it may be examined. A skilled observer can then give a reliable opinion as to the kind of organism that formed the colony. Transplants are then made in separate dishes.

GENERAL NEWS

SOCIAL INSURANCE *

By EDWARD H. OCHSNER, M.D.

The founders of our government subdivided it into three branches: the administrative, the legislative, and the judicial. This was done on the theory that each had a distinct function to perform and that they would all act somewhat as checks and balances upon each other. This seemed logical at the time and undoubtedly has many advantages, but our founders did not and could not foresee one of its dangers and one of the abuses to which this division was to be put, namely, the practice of sidestepping duty and responsibility. One of the chief governmental in-and-outdoor sports today is "passing the buck," with an "open season" the year round.

In a project involving as many problems as social insurance does, all the branches of the government would be involved in its execution—the administrative in administering it, the legislative in enacting the necessary laws, and the judiciary in adjudicating them. Let us then examine briefly how the different branches have deported themselves in the more recent past. Let us start by examining just one typical administrative activity of both the federal and the state governments.

Individual members of the medical profession have repeatedly called attention to the great need of a careful study of all delinquents and criminals in our state and federal institutions in order to determine the mental and physical condition of each member of these two classes with a view to their rehabilitation and possible reclamation and yet, almost nothing has been accomplished along these lines by governmental agencies. Dr. Frank L. Rector, who recently completed a survey under the auspices of the National Society for Penal Information on health and medical work in all state and federal prisons and adult reformatories, states unequivocally that in not one of these institutions is there a well-rounded balanced medical and health program. While some of them provide acceptable accommodation for the care of the acutely sick or injured, there is little or no provision for the rehabilitation of the physically handicapped so that they will be better equipped for earning an honest living after their discharge to civilian life.

Just one typical example. On the day Dr. Rector visited the Ohio State Penitentiary, there were four thousand, four hundred seventy-five prisoners within its walls, of which one hundred fifty-six were hospitalized. There was but one physician on the staff, all other attendants at the hospital were prisoners. While the physician was nominally on a full-time basis he was carrying on an outside private practice as his salary from the state was insufficient to meet his living expenses. What can one part-time physician accomplish with that many patients, a large per cent of whom are physically handicapped, mentally abnormal and emotionally maladjusted? Ohio is a fair example. In most of the other penitentiaries and in the federal prisons conditions are no better and in some even worse.

Now let us investigate some of the legislative problems. While nearly every legislative body contains some men of outstanding ability the great majority of legislators have not the slightest conception of what is required of their position and blindly follow their party bosses who are not generally known for their altruism, their patriotism, or a burning desire to promote the public welfare. One of the worst features of our legislative activities is the fact that a small, well-organized and insistent minority can usually get its measures enacted into law unless some other group is adversely affected by the proposed legislation and makes a counter-attack.

Another bad method of securing legislation is the system of trading. An interesting occurrence of this sort happened in the state of Illinois in 1923. About that time a Chicago mayor was disgracing not only his city and state but the nation by the slogan, "Hit King George on the Snoot." A free citizen from the corn lands of the state decided that he would like to be sent to the state legislature, took up the battle cry, had just one plank in his platform, namely to make American language the official language of the state. He was elected. By use of extensive vote trading he secured the passage of the following:

OFFICIAL STATE LANGUAGE: An act establishing the American language as the official language of the State of Illinois. (Approved June 19, 1923. L. 1923. p. 7.) Preamble. 177. (American language.) 1. Be

* This is the fourth of a series of six articles on Social Insurance by Dr. Edward H. Ochsner.

it enacted by the people of the State of Illinois, represented in the General Assembly: The official language of the State of Illinois shall be known hereafter as the "American" language.

(So much for administrative and legislative inefficiency. The next article will take up the judiciary.)

ANNOUNCEMENTS

NEW SECTION PLANNED

All members of the Association who are interested in forming a section on gastro-enterology and proctology at the Parkersburg meeting next June are urged to communicate at once with Dr. W. P. Black, Kanawha Banking and Trust Building, Charleston. Dr. Black, with a number of other doctors in different parts of the state, is interested in establishing such a section to meet annually and wants to hear from other members who would like to see this section organized.

SALMON MEMORIAL LECTURE

The New York Academy of Medicine has announced that the annual Thomas W. Salmon Memorial Lectures will be delivered on April 8, 15, and 22, 1932, by Dr. Adolf Mayer, Professor of Psychiatry, Johns Hopkins University. Dr. Mayer is also director of the Henry Phipps Psychiatric Clinic, Baltimore. The lectures will be presented at the Academy, 2 East 103rd Street, New York City.

COLLEGE OF PHYSICIANS

The Sixteenth Annual Clinical Session of the American College of Physicians will be held in San Francisco on April 4-8, 1932. The final program for the meeting has just been released. Headquarters for the session will be at the Palace Hotel in San Francisco.

CANCER BOOK FOR THE LAITY

"At the moment," says Mr. H. L. Mencken in an introduction to a new book on cancer for the general reader, "we seem to be almost as far from the conquest of cancer as the pre-Listerian surgeons were, but that seeming is only seeming. There is going on a truly stupendous accumulation of facts, patiently brought together by a multitude of men in all the civilized countries, and day by day, as the terms of the problem are thus narrowed, we come closer and closer to its solution."

The story of cancer, its diagnosis and treatment, its prevention and control, its prevalance and history, are set forth in this new book by Dr. James A. Tobey, entitled "Cancer: What Everyone Should Know About It," published in February by Alfred A. Knopf. This book for the laity also contains interesting chapters on the famous persons who have had cancer, including Napoleon and Presidents Grant and Cleveland; on the false cancer cures; and on heredity and contagion in relation to cancer.

Dr. Joseph Colt Bloodgood of Baltimore, as well as Dr. Mencken, has contributed an introduction to Dr. Tobey's book, which is said to be the first comprehensive American treatise for the general public on this important subject. Physicians will find much of value and interest in this book.

DIET AND DISEASE

Diet in Disease, by Dr. George A. Harrop, Jr., associate professor of medicine at Johns Hopkins University, is a valuable addition to the library of the student or doctor who desires a comprehensive grasp of principles and a clear idea of the value and use of the foodstuffs which compose the diet. This new volume is recently from the press of P. Blakiston's Son and Company, Philadelphia.

The book embraces the material used by the author in lectures, wardrounds and clinics to the third and fourth year classes at the Johns Hopkins Medical School on the use of diet in disease. Included is a brief sketch of some of the general principles of nutrition which have particular bearing on clinical dietetics, together with a brief account of the principal foodstuffs and their place in the diet.

The book contains 403 pages with 80 tables, sample diets and food lists. Most of the diet lists given have been used in the wards of the Johns Hopkins Hospital and therefore tested by trial and experience.

SICKNESS AMONG INDUSTRIAL EMPLOYEES

Reports of sickness causing disability for more than one week among members of a group of industrial sick-benefit associations and company relief departments reporting to the United States Public Health Service show that the sickness incident or

frequency rate during the first nine months of 1931 was practically the same as in the corresponding period of 1930, and 24 per cent below the rate for the same months in 1929. Complete data for the last quarter of 1931 have not yet been received, so that a report for the year as a whole can not be made available at this time.

It will be recalled that a mild but widespread outbreak of influenza occurred in January and February, 1931. During the first quarter of 1929, also, influenza was prevalent. It is of interest to note that the sickness rate exclusive of "influenza" was 10 per cent below that of the preceding year, and 18 per cent less than the rate for the first nine months of 1929.

An interesting point and one which agrees with the mortality records for about eighteen million industrial life insurance policyholders is the relatively low rate of pneumonia in 1931 considering the January-February outbreak of influenza. The pneumonia case rate for the reporting establishment was lower in the first nine months of 1931 than in the same period of 1930, which rate in turn was lower than that of 1929. Favorable rates in 1931 compared with either of the two preceding years are shown also for bronchitis, and for tonsillitis and other diseases of the pharynx and tonsils. Little change is indicated in the frequency of new cases of tuberculosis of the respiratory system. Mortality from this cause, however, decreased in 1931.

For diseases of the digestive system the frequency of cases was 12 per cent below that of the first nine months of 1930, and 20 per cent below the rate in the corresponding period of 1929. An even larger reduction is shown in the incidence of diseases of the skin. A type of illness which has not decreased, but which shows a slightly higher incidence than in 1929 is the group diagnosed as neurasthenia, nervous disorders, and the like. In 1921, when economic conditions were similar to those prevailing now, especially as regards the insecurity of jobs, the neurasthenia rate among industrial employees ascended.

The reports on which these rates are based cover about twenty-five industrial establishments, employing approximately 150,000 men, which have reported continuously throughout the last three years. The plants are located principally in the area east of the Mississippi and north of the Ohio and Potomac rivers.

The record covers, in the main, men who are employed, but includes those working on a part-time basis. Some unemployed men evidently are included, because the by-laws of about one-third of the reporting associations contributing one-seventh of the population under consideration state that membership may be retained during furlough or lay-off if dues are paid. However, in 60 per cent of the reporting organizations involving 83 per cent of the number of men covered, membership is terminated within three weeks of the date of lay-off.

COMMUNICABLE DISEASES

The various communicable diseases in West Virginia last year showed a general rise and fall according to figures compiled by the State Health Department, although no widespread epidemics were recorded. Of particular interest among these diseases are three for which definite preventive measures have been discovered.

Smallpox showed a decided drop. In 1931 there were 242 cases reported in the state, which was 715 less than in 1930. When compared with the 1,350 cases reported in 1928 a marked improvement is noted. This is due in a large measure to the increase in smallpox vaccination. During the past several years, state and local health authorities have put on immunization clinics at which thousands of children have been vaccinated. A number of industrial companies have insisted on their employees being vaccinated against both smallpox and typhoid as soon as they enter the employ of the company.

Typhoid fever showed a slight decline, there being 1,243 cases reported in 1930 as against 1,203 in 1931. Increase in immunizations and improved sanitary conditions are yearly reducing the typhoid toll in West Virginia which in the past has been very high. Greater interest is being taken by the physicians of the state in reporting cases of typhoid thus giving a more complete record of the existence of the disease.

Diphtheria, the third of the trio of preventable diseases, reached a high peak in 1931 when 1,281 cases were reported. This was an increase of 579 over the record of 1930. Many other states showed a similar increase.

Tuberculosis remained almost stationary, 603 cases being reported in 1930 and 614 in 1931. A number of these cases were discovered through chest clinics and the examination of school children.

Poliomylitis or infantile paralysis showed an in-

crease of 33 cases in 1931, a total of 80 cases being reported. However, West Virginia escaped the epidemic which visited many states last year.

Thirty-eight cases of hookworm were reported, the largest number being found in Clay County where a study by local health authorities of this disease is being carried on.

Tularemia was first reported in West Virginia in 1930. Last year three cases were reported to the State Health Department, two resulting fatally.

NERVOUS AND MENTAL HOSPITALS

At the annual session of the American Medical Association held at Detroit in June, 1930, the House of Delegates desired the Council on Medical Education and Hospitals to make an "investigation of all hospitals caring for mental patients . . . . in order to obtain a more accurate knowledge of the situation and to point out the need of further developments." The first preliminary report was made before the annual Congress on Medical Education, Licensure and Hospitals in Chicago on February 15, 1932, and the essential points in this report are given herewith.

The work was definitely begun January 1, 1931. A questionnaire was prepared and mailed to the 561 institutions for nervous and mental patients listed in the Register of Hospitals. Of the 561 institutions, 416 have returned these questionnaires with the data asked for. Personal visits have been made to 353. The conditions observed by the visitors can be reported more satisfactorily later, but a few general statements can be made now.

Of the government-owned group, the Veterans' Administration hospitals are on the whole comparatively new and well equipped, have relatively large medical staffs, and apparently give the individual patient good custodial and therapeutic care. Among county and city institutions, the great majority of those visited were found to be custodial in nature without any aspirations to the rank of hospitals. They are usually managed by laymen who are apparently intelligent and humane, interested in their work and carrying it on in a reasonably acceptable manner. The question whether or not these insane asylums, frankly divorced from considerations of therapy, have a rightful place in a modern mental health program is too complicated to be considered in this brief report.

In state hospitals, which are nearly three times as numerous as all federal, county and city institutions, personal contact with administrative heads revealed that overcrowding was almost universal. In several places it had been carried to a most deplorable extreme. Recreation rooms, living rooms and dining rooms had been made into dormitories. Beds had been placed on porches, in hallways, in attics and in basements. The lack of room was in some instances such as to rule out almost all classification on a basis of diagnosis or therapy, the only workable classification being on the basis of temperament; and without proper classification adequate care is impossible.

In several of these state hospitals there were no hospital units, the word hospital being applicable to them only in the broadest sense of the term. Others had no separate receiving units. Some lacked the equipment for giving patients proper diagnostic or therapeutic care. The personnel in many was admittedly inadequate, attendants being both too few and too incapable, and the medical staff being greatly undermanned. In the presence of such conditions no special knowledge or training was required for their discovery; indeed, if it had been required, many of the superintendents made it unnecessary by themselves calling the visitor's special attention to the conditions; the superintendents desired that such conditions be reported, in the hope that such a report might lead to their improvement.

The language here employed is not intended to give the impression that the Council's visitors are sitting in judgment over these institutions. No such purpose is associated with this preliminary survey, and the language of this report describes the kind and amount of work done rather than its quality. The use of the data returned by these visitors as a basis for the rating of institutions for mental patients is an idea that has no place whatever in the program now being carried out.

It would be hard to overemphasize the value of the personal medical contacts that these visits to institutions have made possible. While personal visits have for years been included in the Council's work with hospitals both general and special, in no other group of hospitals has the need of such personal contacts been so evident or the immediate results so gratifying. Visits have necessarily been brief, but the danger of inaccuracies in reports is minimized by the use of the questionnaire, on which a superintendent makes his own report in writing, the superintendent's report and the visitor's report being checked against each other.

Little more need be said now regarding this unfinished task. With 353 visits made, there are some 200 more to be made. With 416 questionnaires already returned, 150 more are still to come in. The data thus secured must then be analyzed and interpreted. This study will be most carefully made, utilizing all the resources at our command.

COSTS OF MEDICINE

The people of the United States spend $715,000,000 annually for drugs and medicines, which constitutes about 20% of the national bill for sickness.

Of this amount $190,000,000 (26.6%) is spent for medicines prescribed by physicians; $165,000,000 (23-1%) for non-secret home remedies, and $360,000,000 (50.3%) for "patent medicines" of secret composition. These facts are brought out in a report just issued by the Committee on the Costs of Medical Care of which Dr. Ray Lyman Wilbur is chairman.

This report, "The Costs of Medicines," published by the University of Chicago Press, discloses authentic figures on the drug industry in this country obtained through a three-year study on the subject made for the Committee on the Costs of Medical Care by Dr. R. P. Fischelis, vice-president of the American Pharmaceutical Association, and Dr. C. Rufus Rorem, formerly a staff member of the Committee. In November this Committee will issue its final report which will include recommendations based on its exhaustive five-year study into the problem of "the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life."

It was discovered that the average expenditure for medicines is approximately $22 annually per family of four persons or $5.50 per member. Actual expenditures per capita vary widely, however, and tend to be highest in the cities.

Other important facts this survey disclosed include the following:

1. Patients attempting to diagnose their own ailments by comparing their symptoms with those described in patent medicine advertisements may frequently forego proper medical attention until it is too late to effect a cure.

2. "Official" medicines can usually be purchased by the pharmacist for a fraction of the price of proprietary medicines or ethical specialties, with a corresponding reduction in price to the patient.

2. Provided they were engaged in no other pursuits, approximately 10,000 pharmacists could fill the 165,000,000 physicians' prescriptions now annually filled by 115,000 registered pharmacists in 60,000 drug stores. Limiting the compounding of prescriptions to 10,000 pharmacists in as many drug stores, however, would leave many communities without pharmacists and in larger communities would spread the number of pharmacies, making it inconvenient for the public to obtain prompt prescription service.

Merchandising activities of drug stores, frequently derided, make the services of registered pharmacists available and more convenient to the public.

4. Although regulations governing the pharmaceutical profession are strict enough, the privileges of unlicensed persons operating outside of pharmacy are so extensive that the public enjoys little protection in the sales of packaged medicines.

5. While self-medication is increasing, there is not available sufficient information on which the public can base its judgment as to what type of medicine may safely be used for the treatment of simple and minor conditions.

6. Drugs prescribed or dispensed through doctors do not constitute a large portion of the total costs of medical care. Physicians' prescriptions plus the drugs dispensed in doctors' offices average approximately $1.50 per person per year.

"It is significant," the report reads, "that the costs of medicines to patients are still lower when the conditions of treatment permit a physician to prescribe only such medicines as he considers necessary to good results." Such conditions exist, according to the report, where medical service is rendered on an "annual" rather than a fee basis, as in industrial or university health services.

Few of the so-called "patent medicines" are actually registered as to ingredients and granted patents from the United States Patent Office. Most of them are protected by trade names which become, through registration and usage, the property of the manufacturer or distributor. The formulas are secret.

The report states that "so long as secrecy of composition is permissible for medicines offered for self-medication, and so long as the public is kept in ignorance of the proper uses and value of common drugs, the quack will find some method to ply his trade."

Expenditures for fraudulent cures range from $15,000,000 upward each year.

The authors made four recommendations based on their survey for the Committee on the Costs of Medical Care. They are:

1. Secret-formula drugs and medicines should be abolished through the compulsory disclosure on the label of the kind and quantity of medical ingredients. Those developing new and distinct preparations should be financially protected by appropriate privileges granted by a disinterested agency.

2. All manufacturers of drugs and medicines should be required to operate under annual licenses to be granted by the federal government upon the fulfillment of satisfactory conditions with regard to competency of personnel, equipment and sanitary surroundings, and standardization of finished products.

3. Agencies should be established to prepare and disseminate accurate information concerning the proper use of home remedies appropriate for self-medication with the aid of a committee of physicians and pharmacists of unquestioned reputation and standing. Universal and unnecessary use of self-prescribed medicine should be rigorously discouraged.

4. Professional knowledge of pharmacists should be used more adequately by reducing physicians' reliance on branded products; by permitting pharmacists to instruct drug store customers in proper use of medicines purchased for self-medication, but not to the extent of diagnosing ailments or recommending medicines; by the pharmacist distributing information dealing with medicines and hygiene prepared by health departments; and by supplying information to the public concerning physicians and hospitals on the basis of data provided by local medical or hospital associations.

HEALTH'S ARISTOCRACY?

Do your health manners include you among the aristocracy of health? Dr. J. Clarence Funk in *Hygeia* lists the following polite practices:

(1) Breathe plenty of fresh air day and night; (2) obtain sufficient rest in every twenty-four hours; (3) eat food of all kinds in sufficient quantities, not too much or too little; (4) stay clear of drugs always, unless a physician prescribes them; (5) take adequate exercise daily; (6) keep the alimentary system regular; (7) drink plenty of water; (8) avoid the excessive use of stimulants; (9) eliminate all devitalizing habits; (10) work and play, but never to the breaking point with either; (11) obtain a physical examination by a reputable physician annually and make a semi-annual visit to the dentist; (12) don't worry needlessly.

TRADITION AND HABIT

Meal-time etiquette is almost universal, although customs differ. Some natives of Central Africa cover the mouth with a napkin when they eat with Europeans, and in Ashanti the man who drinks before his inferiors hides his face. In many tribes the women do not eat until after the men have eaten and commonly one sex does not eat in the presence of the other. Hindus, who do not like to be stared at while they eat, will often throw away the remaining food if a stranger persistently stares at them.

What one race considers a delicacy, others shun. Australians eat witchetty grubs raw and to them these are more appetizing than the raw oysters most Americans eat with gusto. The Samoans eat raw fish. We do not eat crow, porcupine, skunk or snake, but some persons do. Wilson D. Wallis writes about "When Do We Eat—and What?" in *Hygeia,* the Health Magazine.

"Since the vitamins have been discovered, a thousand problems have been added to the lot of civilized man. How did the savage fare with his limited diet, his monotony of foods? Beriberi, scurvy and pellagra have claimed their thousands of victims, all because of a vitamin deficiency," Mr. Wallis points out in his second article on foods.

Simple foods have their advantage. Samuel Johnson boasted that he "could write a better book on cookery than has ever yet been written; it should be a book upon philosophical principles. Pharmacy is now made much more simple. Cookery may be made so, too." In the plain area the predominant method of cooking was to dig a hole in the ground, line this with a buffalo skin, pour in water and place heated stones in the water until it boiled. Water-tight baskets served as the containers.

In Oceania the favorite method is to dig an oven in the ground, build a fire in it, scrape away the burning firebrands and lay the food, wrapped in leaves, on the embers. These parcels are then covered with earth, and after two or three hours the food is exhumed, steaming hot, thoroughly cooked, and flavored by the leaves.

FIFTY YEARS AGO

Contradicting a world of tradition and a widely-held scientific theory, Robert Koch, fifty years ago this March, made the sensational announcement that consumption was caused by an infectious bacillus and that hence it was a contagious disease. According to a biographical sketch of Koch by Dr. Claude Lillingston in the March issue of *Hygeia*, Koch's theory was not readily accepted. It did bring about, however, a series of collective investigations in America, England, France, Germany, and Italy. Some 50,000 doctors participated in this gigantic undertaking. They contradicted one another and confused the issue, but above it all rose the young German bacteriologist with his well defined postulates. On Koch's discovery, the whole modern campaign against tuberculosis has been based.

FUNCTIONAL DISORDERS

"Johnny's Stomache," according to Dr. Rachel Ash whose article by that title appears in the March *Hygeia*, should not be treated by the parent, who, with a spoon in one hand and a bottle of castor oil in the other, forces the deadly poison down his throat. The author says "deadly poison" because Johnny's stomachache may be due to his appendix. In this case the defenseless intestines, inflamed as they are, have forced in them the dose of castor oil, which sets them into activity. This alone may cause a ruptured appendix. Other functional disorders are greatly harmed by a laxative. A careful diagnosis by a competent physician may save a child's life.

HOSPITAL ASSOCIATION NEWS

At the conferences in Washington between representatives of the American Legion, the American Hospital Association, and the American Medical Association, and the Veterans' Bureau, when the question of utilizing the non-government hospitals throughout the United States for the care of sick and disabled veterans of the World War arose, the Veterans' Bureau requested that a joint committee consisting of representatives of the American Legion, the American Hospital Association, and the American Medical Association be appointed to report upon different phases of information bearing upon this important question.

This committee was appointed, with Mr. Paul H. Fesler, President of the American Hospital Association, as its chairman. The committee requested that it be advised by the non-government owned hospitals throughout the country of the number of sick and disabled veterans which they are caring for on a given date. The date selected was April 1. Blanks are being sent to the various hospitals in this state and it is asked that the hospitals coöperate with the committee.

A.M.A. MEETING

The Officers, fellows and members of the American Medical Association have received their official call to the eighty-third annual session of the American Medical Association which will be held in New Orleans, Louisiana, from Monday, May 9, to Friday, May 13. Many of our West Virginia doctors are contemplating making the trip, and we are sure it will be both enjoyable and profitable.

The House of Delegates of the American Medical Association will convene on Monday, May 9, in the Tip Top Inn of the Roosevelt Hotel, 123 Baronne Street. The appointment of delegates made at the Philadelphia Session of 1931 entitles our State Association to two delegates for 1932-'33-'34.

The Scientific Assembly of the Association will open with the general meeting to be held on Tuesday, May 9, at 8:30 P. M.

The various sections of the Scientific Assembly will meet Wednesday, May 11, at 9 A. M. and at 2 P. M., and subsequently according to their respective programs.

The following is the program of the Scientific Assembly. The opening general meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held Tuesday evening, May 10, at 8:30. The sections will meet on Wednesday, Thursday, and Friday, May 11, 12, 13, 1932.

Convening at 9:00 A. M. the Sections on Surgery, General and Abdominal; Opthalmology; Dis-

eases of Children; Pharmacology and Therapeutics; Nervous and Mental Diseases; Dermatology and Syphiology; Gastro-Enterology and Proctology; Radiology.

Convening at 2:00 P. M. the Sections on Practice of Medicine; Obstetrics, Gynecology and Abdominal Surgery; Laryngology, Otology and Rhinology; Preventive and Industrial Medicine and Public Health; Pathology and Physiology; Orthopedic Surgery; Urology.

The Registration Department will be open from 8:30 A. M. until 5:30 P. M. on Monday, Tuesday, Wednesday, and Thursday, May 9, 10, 11, 12, and from 8:30 A. M. to 12:00 noon on Friday, May 13, 1932.

CRIPPLED CHILDREN

In this week's *Public Welfare Bulletin* the following article regarding the classification of the state's crippled children appears. We are reprinting it in the JOURNAL only as a matter of interest to doctors.

The policy of classifying crippled children to be rehabilitated was enunciated by Captain Calvert L. Estill, director of the Department of Public Welfare, at the annual meeting of the West Virginia Society for Crippled Children held at Charleston, Friday, January 15.

Recognizing the fact that the appropriation for the work of the Division of Crippled Children will not begin to care for all classes of children in the State, the Director has followed the plan of classifying the types of cases according to the probable degree of rehabilitation possible with preference for those types which are not hereditarily transmissible.

It was also declared the policy of the Department to hold the funds to be used in rehabilitating crippled children massed and flexible so long as possible. This change in administrative procedure varies from the former plan of alloting fixed sums to the various counties on a basis of population figures.

Captain Estill's thoughts on these two policies are summed up in the following paragraphs from his address before the society: "As a corollary of the policy of keeping the state funds massed and flexible as long as possible is the policy of hospitalizing children according to preferential classes. In determining what children shall go to the hospital, we try to divide pending applications into the following classes: First, types of deformity which can be most quickly, completely and inexpensively corrected and which are not hereditarily transmissible. Second, types of deformity which may require more time and more money for correction but which can be most completely corrected and which are not hereditarily transmissible. After the applications of these classes have been approved, we are ready to consider other classes."

The Director was careful to point out that the adoption of such a policy did not mean that any class of crippled children would be barred. Each case is considered on its individual merits, in selecting those who are to be rehibilitated.

Other portions of the Director's address, in which he outlines the broad policy of the Department are re-published below:

"The Department of Public Welfare, consolidating and coördinating the three agencies I have mentioned, legally came into being on June 8, 1931, but began actually to function on July 1 of that year. The Department consists of three divisions which in the main carry on the work formerly done by the agencies which were merged. Our Division of Dependent Children is charged with all duties relating to problems of dependency and neglect. Our Division of Cripple Children is charged with carrying out the responsibilities placed upon the Crippled Children's Council. Our Division of Veterans' Affairs is charged with handling all problems of World War and Spanish-American War Veterans and their dependents. All rights, powers, privileges, duties and responsibilities that were vested, prior to June 8, 1931, in the State Board of Children's Guardians, the Crippled Children's Council and the Veterans' Service Officer have been transferred to and vested in the Department of Public Welfare and center in the Director of the Department.

"The Department inherited from the Board of Children's Guardians a field supervisory staff of eleven, which, because of smaller appropriations, has been reduced to nine. These field agents, formerly charged only with matters pertaining to dependency and neglect, are today charged likewise with all field work connected with crippled children and veterans and their dependents. They are carrying an immense case load but in spite of this handicap are doing excellent work in the field.

"The work of each division is varied and manifold. Each has its own peculiar problems and each has its particular program which merges with the general welfare program of the Department.

"This group (The West Virginia Society for Crippled Children) is primarily interested in the work that is being done for crippled children in West Virginia, especially by the state. I know, of course, that you are likewise deeply interested in matters affecting dependent children and veterans, but you are meeting today as a Crippled Children's Society, and I shall therefore emphasize one phase of our Department work.

'For a considerable time of the first six months of the life of the Department we have followed largely the paths laid out by the Crippled Children's Council. From time to time, as study and analysis have convinced us of the desirability of it, we have made administrative changes and changes in practice and procedure. We will continue to modify policies, practices and procedure as facts and conditions warrant, and to adopt new policies and new practices from time to time. I shall touch upon some of the new policies and practices which we have made effective without attempting to compare them minutely with old ones, because I feel sure you are familiar with the way things have been handled in the past.

"One of the first administrative changes made was the adoption of a consolidated application record blank which simplifies the clerical work for county committees, clinics and headquarters and gives us an opportunity to authorize hospitalization on a somewhat more scientific and businesslike basis than in the past. Most of you are by this time familiar with these new blanks. Those of you who are not will, I hope, secure a supply for the use of your local branch before you return home.

"One of the principal changes in policy in which you will be particularly interested pertains to the use of state funds. In the biennial period, 1929-31, the Crippled Children's Council, charting its way into unexplored territory, decided to allot the state appropriation to the counties on a basis of assessed valuation in each county. At the time, this plan was perhaps as fair as any that could have been devised and it worked out in a fairly satisfactory way. Two years of operation under it, however, showed its defects, and as a result of these defects we have as yet made no specific allotment to the counties this year because we feel we have no adequate unit of measurement to determine such allotment. A logical basis for apportionment of funds would be the proportion which the number of crippled children found on survey in each county bears to the total number of crippled children found on survey in the state. Even this basis should perhaps be modified by another factor, that is; the proportion which the number of children found on survey in a county bears to the population of the state. Allotment of funds to the counties at the beginning of a fiscal year necessarily ties those funds up until the close of that fiscal year and prevents their being used in places where there is necessity of an emergency nature. There are other phases of the apportionment question which I shall be glad to discuss later if you wish. Not having an accurate yardstick to measure allotment, however, I have held the entire appropriation as a flexible fund for the use of crippled children wherever they may be found.

"As a corollary of the policy of keeping the state funds massed and flexible as long as possible is the policy of hospitalizing children according to preferential classes. In determining what children shall go to the hospital, we try to divide pending applications into the following classes:

"First, types of deformity which can be most quickly, completely and inexpensively corrected and which are not hereditarily transmissible.

"Second, types of deformity which may require more time and more money for correction but which can be most completely corrected and which are not hereditarily transmissible.

"After the applications of these classes have been approved, we are ready to consider other classes.

"I know not how far you will agree, but it seems to me that the basic reason for our work with crippled children is not only that the children themselves may be helped, but that our own children and their children will have less of a burden to carry in the form of an army of crippled adults, dependent upon others for their support. If this be the reason for our work, then it naturally follows that we should choose first—since we have not money to hospitalize all crippled children—those children whose deformity corrected in this generation will not be transmitted by heredity to the next generation in increasing number. It seems to me that unless we make this distinction in classes of cases to be treated, we actually pay a premium on the birth of deformed children.

"Our plan should be to take first those who are nearest normal and strive to make them normal; and then take those who are immediately below that group, and bring them to normal, or as near normal as possible, rather than go to the extremes and leave unrehibilitated those who could be most nearly made whole.

'As to what types of deformity are transmissible to heredity, I do not presume to speak; but I do know that there are certain types which are not transmissible and I think we should concentrate to a large extent on these. In this class I would put, among others, infantile paralysis cases, tuberculosis of the bone, unreduced fractures, burn contractures and birth injuries. I suspect there are enough children falling within these classes to absorb all of the present appropriation, though we have not, of course, yet found them. Do not understand by what I have said that we will not continue to take other types of deformity, such as club feet and hare lip, but I do want you to give first consideration in your requests for hospitalization to the preference I have mentioned. We will not knowingly take any mental deficients.

"Another change in practice which we believe has been a great step forward is our system of follow-up work after the children have been hospitalized. In the five months Miss Mahoney has been a member of the staff she has been in every section of the state and has visited 300 children in their homes in 25 counties, and in addition has seen, examined and assisted hundreds of othere in clinics and in hospitals. . . .

"In October we moved eleven children with tuberculosis of the bone from private hospitals in the southern part of the state to the Children's Hospital at Hopemont, and since that time have sent four other children to the same institution. Those of you who know Hopemont, who know its wonderful superintendent, Dr. Evans, and its splendid matron, Mrs. Pettit, will appreciate the wonderful opportunity for recovery these children have. The transfer of the children had the sanction of our orthopedic staff and our orthopedists have visited them in Hopemont to watch the course of their recovery and to change plaster casts and appliances from time to time. By reason of the favorable rate we get at Hopemont, the transfer of these children from private hospitals to a state institution represents a saving of $104.00 a week, enough money to hospitalize more than six additional children a week in the orthopedic hospitals. The saving amounts to more than three hundred hospital weeks in the course of a year. We feel that this has been a step in the direction of both economy and efficiency.

"So much for policy. Now for some of our problems. The most difficult administrative task that confronts the Department is getting the children into and out of the hospitals. When a child is ready to be taken home, every day that he is kept in the hospital means a day less for some child that needs the care and treatment. Through the coöperation of county committees this task is being partly solved, but it is essential that we should devise other and more adequate means for getting the children home when the hospital is ready to discharge them. I believe the county committees can be of greater help in solving this problem than they have been. Organization of a motor corps in each county could be effected and volunteer transportation in most instances could be secured under definite organization plans. I hope that this question will be fully discussed here today and that the members of the Society will be able to make some recommendations on the subject."

THE LIBRARY

The Medical Library of the West Virginia State Medical Association has become very useful to its members. This library is open each week-day from nine until twelve o'clock and from one until five o'clock; and on Saturdays from nine until twelve o'clock. Most of the leading current medical literature can be found on the shelves of the library, and a good many reference books and new editions are listed.

The following is a list of all medical journals in the library:

Annals of Surgery.
The American Heart Journal.
Archives of Internal Medicine.
Archives of Dermatology and Syphilology.
American Journal of Diseases of Children.
American Journal of Medical Sciences.
The Journal of the American Medical Ass'n.
American Medicine.
Journal of the Association of American Medical Colleges.
American Medical Association Bulletin.
Archives of Physical Therapy X-Ray, Radium.
Achives of Physical Therapy.
Archives of Ophthalmology.
Proceedings of the Annual Congress A.M.A.
Proceedings of the House of Delegates A.M.A.
Hospital Service in the U.S.A.
Bulletin of the Medical Association of American Medical Colleges.
Bulletin on Cancer.
Bulletin of the New York Academy of Medicine.
Bulletins of West Virginia Hospitals.
The British Journal of Surgery.
The British Medical Journal.
California and Western Medicine.

The Compend of Medicine and Surgery.
Delaware State Medical Journal.
The Dental Roster.
Federation Bulletin.
The Journal of the Medical Ass'n of Georgia.
Hahnemannian Monthly.
Hospital Management.
Hygeia.
Illinois Medical Journal.
International Medical Digest.
International Journal of Medicine and Surgery.
Journal of the Indiana State Medical Association.
The Journal of the Kansas Medical Society.
Kentucky Medical Journal.
The Lancet.
The Laryngoscope.
The Journal of the Maine Medical Association.
Proceedings of the Staff Meetings of the Mayo Clinic.
Journal of the Michigan State Medical Society.
Minnesota Medicine.
The Journal of the Missouri State Medical Ass'n.
Mortality Statistics.
The Nebraska State Medical Journal.
The New England Journal of Medicine.
New Orleans Medical and Surgical Journal.
New York State Journal of Medicine.
Northwest Medicine.
The Ohio State Medical Journal.
The Journal of the Oklahoma State Medical Association.
The Pennsylvania Medical Journal.
Public Health.
Radiology.
The Radiological Review.
Reprints.
The Rhode Island Medical Journal.
Southern Medical Journal.
Journal of South Carolina Medical Association.
Southern Medicine and Surgery.
Southwestern Medicine.
Statistical Bulletin.
Surgery, Gynecology and Obstetrics.
The Journal of Tennessee State Medical Ass'n.
Texas State Journal of Medicine.
Tri-State Medical Journal.
The Urology and Cutaneous Review.
Venereal Disease Information.
Virginia Medical Monthly.
The Wisconsin Medical Journal.
West Virginia Medical Journal.
White House Conference.

WOMAN'S AUXILIARY

KANAWHA AUXILIARY MEETS

A very interesting meeting of the Woman's Auxiliary to the Kanawha Medical Society was held at the home of Mrs. Herbert Garred, Charleston, on the evening of March 8th, with a record attendance. An instructive and interesting talk by Dr. C. A. Ray on "The Then and Now of Medicine" was the feature of the evening. Cans of fruit were donated by the members, the collection to be given to the Hillcrest Sanatorium.

It is interesting to note the progress the Auxiliary is making in Public Relations achievements. In Minnesota a fine item in the Public Relations report has to do with an essay contest on the subject of Tuberculosis. To the high school boys and girls in the state, the Minnesota Auxiliary gave two loving cups for essays on Tuberculosis. From the 173 essays received ten were selected as the best. The writers of these were brought to Minneapolis one at a time, and the essays were broadcast over WCCO. Much publicity was given the Auxiliary and this project through the Twin City papers. These essays were printed, widely read, and much discussed. While the Minnesota State Health Association and Tuberculosis Christmas Seal groups coöperated, yet to the Auxiliary went the credit and the work of enlisting the coöperation of high schools, the English teachers, and the students themselves.

The tenth annual meeting of the Woman's Auxiliary to the American Medical Association promises to be one of the finest that has yet been held. The date is set for May 9-13, 1932, the headquarters being the Jerusalem Temple, 1137 St. Charles Avenue, New Orleans, Louisiana. Opening with a dinner and pre-convention meeting, the following days are replete with both interest and instruction. It is hoped that the Auxiliary in West Virginia will have an opportunity to attend this meeting.

PORE OXYGEN

Pure oxygen, except under pressure, is not harmful to the human body. Those experimenters who are engaged in energy metabolism studies, in which oxygen with little air is consumed for a period of from ten to fifteen minutes, will welcome this opinion of a doctor writing for *Hygeia*.

MONTHLY MORBIDITY REPORT

BY COUNTIES

FEBRUARY 1932	Chickenpox	Diphtheria	German Measles	Influenza	Measles	Meningitis Cer. Spi.	Ophthalmia Neonatorum	Poliomyelitis	Scarlet Fever	Smallpox	Trachoma	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough
Barbour		3		6	5				2				2	1
Berkeley		5			1				2					
Braxton		1		5										
Brooke	3	2							31					
Cabell	1	2	2						3			6	1	
Clay					2								3	
Doddridge				18	10				1					2
Fayette	11	3			76	1				2		1	2	30
Gilmer									1					
Grant	1				7									
Greenbrier		1												12
Hampshire				47					2					
Hancock	9	1			1				1					1
Hardy					1									
Harrison	14	7			249				34	1			3	14
Jefferson	1	1	3	10	5				3			1		11
Kanawha	53	6		8	375			1	13			3	2	17
Lewis	1	6			8				4					11
Lincoln				22	6						1		3	6
Logan	4	3			11				4			20		3
Marion	15			84	263				6			14		4
Marshall	1	3	1	88	3				11			6		14
Mason	4	4		24	6				4			7	3	40
Mineral	8	3		114	9				22			10		11
Mingo	22	5		43									1	16
Monongalia	3	3		5	190				3					1
Monroe	1													
Nicholas	1				130				1					
Ohio	5				4				9			7	1	45
Pocahontas			2											1
Preston	6				5									
Putnam		1												
Raleigh	4	8			66		1		8				2	
Randolph		1							3					
Ritchie				3	1				1					
Summers	3			70					3			1		
Tucker		2							1					
Tyler				12	2									
Upshur		2							6					
Wayne		7		1									1	14
Wetzel		1		6	1									
Wood	9	2			292				9					11
Wyoming		1			3			1				1		18
Totals	184	85	8	566	1732	1	1	2	189	3	1	78	24	312

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OBSERVATIONS ON THE TREATMENT OF MENINGITIS*

By GEORGE M. LYON, M.D.
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TWO YEARS AGO while attending this same Alumni Reunion, Dr. Park and I were discussing the intrathecal administration of serum. At this time he remarked that Dr. Weed had suggested the possible advisability of introducing serum into the ventricles while simultaneously withdrawing the purulent cerebrospinal fluid from the spinal subarachnoid space.

The continued high mortality of meningitis in infants and the incidence of post- need no comment here. I think we would meningitic complications are so obvious as to all agree that there is room for improvement in the treatment of meningitis. Some feel as Dr. Blackfan and his associate, Dr. McKhann, that next to having a serum of high specificity, the question of early recognition and early treatment is most important. Others have felt that in addition to this a larger individual dosage of serum with extensive withdrawal of contaminated fluid might be of distinct value. In this manner the serum in high concentration would be placed in intimate contact with the organisms.

In an attempt to accomplish the substitution of serum for infected cerebrospinal fluid, I proceeded as will be described, first carrying out the procedure on a cadaver and subsequently on a patient moribund with pneumococcus meningitis. No mechanical difficulties presented.

I. Two patients were later treated in the following manner. A new 19 or 20 gauge Luer lumbar puncture needle 7 cm. long was introduced into the right ventricle. The stylet was left in place, the patient turned on his left side and a lumbar puncture performed with a new 20 gauge Luer needle. A 100 c.c. Luer syringe, connected by a rubber tubing 20 cm. long, was attached then to the lumbar puncture needle and the baby placed in a position of normal extension. Then with the patient still on the left side a 100 c.c. Luer syringe barrel was connected to the needle in the ventricle by a rubber tubing 20 cm. long. This syringe barrel contained 90 c.c. of antimeningococcus serum to which had been added 1 c.c. of neutral phenolphthalein. The weight of the dependent plunger at the lumbar puncture needle combined with that of a column of serum at the ventricle from 10 to 30 cm. high provided the only pressure employed. After from 65 to 70 c.c. of purulent fluid had been withdrawn and about 55 c.c. of serum

* Read by invitation before the Johns Hopkins Medical Association, Baltimore, February 6, 1932.

introduced, the dye appeared in the fluid from the lumbar puncture needle. Both syringes were then disconnected from their respective needles and the fluid from each allowed to flow until it dropped at the rate of approximately 30 drops per minute. This rate was considered an indication of essentially normal pressure. Approximately 0.5 c.c. of fluid escaped from the ventricular needle, before pressure there was normal. Then the needle was withdrawn. In a short time the fluid from the lumbar region indicated a return to normal pressure, approximately 2 c.c. having escaped before this occurred. The lumbar needle was then withdrawn. The usual febrile reaction occurred. Small amounts of fluid were withdrawn from time to time for study and for the relief of pressure. Cultures and smears were made to determine when sterilization of the fluid occurred. Forty-eight hours following the first substitution, the procedure was repeated as before except that the patient was placed on his right side and the left ventricle tapped. Approximately 15 c.c. more of fluid was removed than was introduced. Following the second administration, spinal drainage was done with decreasing frequency and the progress in the spinal fluid characteristics noted.

II. Because of the severe fulminating characteristics presenting, three patients were treated in the following manner: With the patient on his back both ventricles were tapped, then the patient was carefully turned onto the left side and a lumbar puncture performed. The serum reservoirs, consisting of two 50 c.c. Luer syringe barrels with rubber tubing, were attached, one to each needle. Then the syringe to the lumbar puncture needle was attached by means of similar tubing, and the substitution completed. The column of serum at the ventricle and the column of serum at the lumbar region plus the weight of the dependent plunger provided the pressure for the substitution. Spinal drainage was done at intervals to relieve pressure and to enable the fluid to be studied. Forty-eight hours later the same procedure was repeated, followed by spinal drainage decreasing in frequency. The lantern slides describe the clinical progress of the patients.

III. Of interest in this connection is another patient to be so treated. He was a boy, aged three and one-half years, who, under the treatment usually carried out by repeated intraspinous administration of serum, developed a right ventricular blockage. Two trephine openings were made and the procedure carried out as described above. Thereafter, during a period of three weeks, we substituted serum for fluid repeatedly. He died subsequently because we were unable to obtain a serum that would free the spinal fluid from organisms, in spite of the fact that serums were obtained from five different commercial laboratories, two of which provided specially prepared serums after obtaining our cultures. His reactions to repeated treatment by substitution in no way differed from those that follow the administration of serum by simpler methods. I refer to this case, to show (1) that it is essential to have a potent and specific antiserum and (2) that this method of substitution when carried out carefully was no more injurious to the patient than other methods, even when it was necessary to resort to it repeatedly, and (3) to cite the complications which may arise as a result of the repeated and prolonged use of serum intrathecally.

The patient just referred to presented serious serum sensitization phenomena, including an Arthus phenomenon occurring in the choroid plexus. This has been observed before by Dr. Amoss and may occur as a result of repeated injections of serum intrathecally, no matter by what method the injection is carried out. At autopsy, each ventricle was almost completely filled with a mass closely resembling an organized blood clot but which on further examination was the choroid plexus swollen to many times its normal size, yet retaining its original contour and its normal attachments. This condition explained why we had experienced such difficulty in obtaining fluid from his ventricles the

days just prior to his death. It also explained the obstruction to the right ventricle which had been present the day preceding his death. The structure, as it passed through the foramen of Monro on the right, was swollen so as to completely occlude the opening. I have not seen this described before as a cause of ventricular blockage, or as a cause of "dry" tap of the ventricle.

There is another condition, reference to which I have not found in the literature, which is encountered in nearly every case where injections of serum into the cerebrospinal system have been carried out over any considerable length of time. In this, as a result of precipitation of protein and fibrin elements within the cerebrospinal fluid, there accumulates, especially in the spinal subarachnoid space, a thick "sediment" which does not pass readily through the needle. The thinner "supernatant" fluid is withdrawn repeatedly by spinal drainage and this process of "skimming" further adds to the solid content of the fluid with its attendant increase in tendency to blockage, adhesion formation, "dry tap," etc.

Arguments in favor of terminating as quickly as possible the administration of serum are to be found in the observations above cited.

Summary.—In spite of the age of the five infants treated, and the severity of their infections, an early and complete recovery occurred in each case. The cerebrospinal fluid was sterilized within twenty-four to forty-eight hours following the first substitution of antimeningococcus serum. The duration of the illness was shortened. There were no sequelae.

A large initial dosage of serum combined with an extensive withdrawal of contaminated cerebrospinal fluid was obtained. The resulting concentration of serum was high and an intimate contact of serum with meningococci was provided. Early sterilization of the fluid occurred. In each case, two serum substitutions effected a clinical cure. Fewer injections of serum were required. In this manner it was possible to avoid the complications resulting from the repeated administration of serum intrathecally.

The substitution of serum by this method did not produce any untoward effects in the patients so treated. Vomiting, convulsions, cardiac or respiratory embarrassment, etc., did not occur. There was no increased depression nor aggravation of the clinical condition at any time.

The output of cerebrospinal fluid in response to serum injected, was greater than obtained by other methods of administration. This was a favorable adjunct to therapy, as it provided excellent lavage of the cerebrospinal fluid spaces. Spinal drainage, when indicated, prevented difficulties from increased fluid pressure. In the forty-eight hour period following the introduction of serum, as little fluid as possible was withdrawn, in an attempt to maintain throughout that period a high concentration of serum.

The danger of exerting too much pressure within the cerebrospinal fluid chamber was ever in mind. It was possible to carry out the substitution without exceeding the pressure found within the cerebrospinal fluid chamber under normal circumstances.

Conclusion.—With the realization that a potent antiserum is essential and that early recognition and early administration of serum are almost as important, this method of substituting serum for cerebrospinal fluid is presented in the belief that it is an improvement on the methods of intra-thecal administration at present in use. It has been successfully employed without at any time aggravating the clinical condition of the patient. The use of this method in infants with meningitis should result in a lowered mortality rate, a shortened duration of illness, and a decreased incidence of sequelae.

While a decided departure from present methods of treatment, in the hands of one who is skilled and careful, the hazard is

probably slight. Furthermore, as one-third to one-half of all infants with meningococcus meningitis die when our present methods of serum therapy are intelligently and intensively applied, one is warranted in attempting new or radical procedures which seem to offer opportunity for improved therapeutic results.

A CLINICAL STUDY OF POWDERED WHOLE MILK IN INFANT FEEDING*

By ANDREW E. AMICK, B.S., M.D.
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POWDERED MILK† has achieved widespread use in infant feeding in recent years and has enjoyed a well-merited popularity among physicians concerned with pediatrics. This type of concentrated milk is by no means a new product, for it has been employed for many years in infant and child feeding, both in this country and abroad.[1] As a result of this extensive clinical experience, there is now a comprehensive scientific literature on the subject.

The study reported herewith was undertaken because of the difficulty in securing a good grade of fresh cow's milk in many of the coal camps of southern West Virginia, where numerous infants deprived of breast milk require satisfactory artificial feeding. The investigation extended over a period of two years and involved 100 cases, all of whom were given formulas made from powdered whole milk.

The Powdered Milk.—The powdered milk used in this study was made by a spray process by which whole milk is partially condensed, then pasteurized for thirty minutes and finally dried by spraying into a current of warm air. As the moisture evaporates, the solids of the milk—the powder—fall to the floor of the tin-lined drying chamber and are removed at regular intervals.

This powder is packed in cans from which all air is excluded by a special vacuum process, with the result that the product keeps without change for a long period of time. After the container has been opened the powder remains in good condition for weeks, depending upon the temperature and humidity of the place where it is kept.[2]

According to the work of Cavanaugh, Dutcher, and Hall,[3] this spray process does not have an adverse effect on the antiscorbutic properties of the milk. These investigators conclude that, "The experimental evidence indicates that there is no destruction of vitamin C by this process, so far as vitamin destruction can be measured by the guinea pig methods described."

The composition of the powdered milk, both in the dry and liquid forms, as compared with that of fresh cow's milk, is as follows:

For Powdered Milk

	Powdered	*Liquefied*
Butterfat	28.00%	3.33%
Protein	26.7	3.18
Lactose	38.0	4.53
Salts	5.8	0.69
Water	1.5	88.27
Total	100.00%	100.00%

For Cow's Milk

Butterfat	3.5 — 4.0%
Protein	3.5
Lactose	5.0
Salts	0.75
Water	87.25
Total	100.00%

Calories per ounce of the powdered milk, 149.

* Read before the Kanawha Medical Society at Charleston on May 8, 1931.

† The product referred to in this article is Klim, manufactured by the Merrel-Soule Company.

Calories per packed level tablespoonful, 42.
Calories per ounce cow's milk, 20.
Calories per ounce liquefied powdered milk, 20.

Method of Procedure.—The powder was found to be readily soluble in boiled cooled water. The fat globules are much smaller than those in fresh whole milk, resulting in a complete emulsification of the fat in the liquefied powder. A cream line does not form on standing. During the process of drying, the casein is precipitated into minute particles which remain suspended in this finely divided state after the addition of water, so that it closely resembles breakfast milk in the ease of digestibility and in the smoothness of the stools. The taste is very similar to fresh pasteurized milk.

The manufacturers of the powdered milk used in this study claim that vitamins A and B are unaffected and that vitamin C is not appreciably affected. Personally, I believe that it is better to assume some slight vitamin changes, especially in vitamin C, and to supply this by early administration of orange or tomato juice.

Cereals and vegetables were instituted at the age of six months and cod liver oil was given to all cases. By such a procedure any signs of rachitis were corrected and those cases where constipation had developed were alleviated by the giving of gruels, cereals, and vegetables.

Various types of additional carbohydrate were used with the powdered milk, in order to supply additional calories, and no difficulty was encountered. Corn syrup gave as good results as any of the more expensive sugars. With the caloric values in mind it was a simple matter to prepare the milk for single, as well as for twenty-four hour, feedings.

The cases taken at random included some well babies and some who were sick. Past histories revealed frequent digestive disturbances with vomiting and diarrhea. For the whole series there was present an average of 10% underweight for the age and length. The age range for the group, at the time of instituting the feedings, was ten days to three months, and there were eleven prematures. A careful history of the feedings was obtained from the mothers as they came to the clinic. The chief complaint was, "My baby cries all the time and it is not gaining in weight." In sixty-nine cases breast feedings were being given or had been given until the mother had given up in despair. A previous history revealed that most of the mothers had "raised all her babies on the breast," and this number was usually three to seven. The remaining cases had not had any breast milk, and of this number there were five prematures.

Various types of artificial foods had been attempted, including fluid milk, condensed milk, evaporated milk and proprietary foods, and some had given good results. Beginning signs of rachitis were, however, easily demonstrated in a large number of the cases studied.

Weekly and bi-monthly weight charts and progress reports were kept until the youngest babies under observation had reached the age of one year. This record included also a check on the stools and illnesses.

Results.—The average weekly gain for all under six months was 5¾ ounces. The average weekly gain from the sixth month to the end of the first year was 4¼ ounces.[4]

In most of the cases where vomiting and loss of weight had been given as the "chief complaint" there was noticed a striking improvement in a few days. Very dilute feedings were given the vomiting babies until this condition was controlled. In some of these cases powdered skimmed milk was used to check the vomiting. Then we would institute a concentrated feeding as rapidly as the baby would tolerate it. Invariably a gain in weight would follow, probably because of the easy digestibility of the powdered milk.

During the period of observation there was observed some cases of constipation. In some, loose stools were also reported. A few had diarrhea, but a check-up would generally reveal this to be associated with "colds" and other upper respiratory infections. The stools for the group were, as a whole, very good and averaged from one to three in each

twenty-four hour period. They were smooth and well-formed for the most part.

During this two-year period there were five deaths due to broncho-pneumonia and one death due to septic meningitis. Three of the prematures died from acute inanition. Only four cases in the series showed a definite intolerance to the powdered milk formulas.

I am personally convinced that the success in this series was due to the easy digestibility of the powdered milk, coupled with its keeping qualities, cleanliness and safety, and the ease of preparation of single feedings. In a great number of homes from which these cases were drawn all forms of modern methods for refrigeration were lacking and the "baby milk" was kept either in an open window or standing in a pan of cold water. All of us realize the futility of keeping fluid cow's milk, either raw or pasteurized, by such means.

I believe that the high infant mortality rate now existing in West Virginia is due largely to the quality of milk sent out from the large towns to the smaller ones. The use of properly pasteurized milk in infant feeding is an established procedure, but it is within the bounds of possibility that some milk is improperly pasteurized, and some of it is too old before being pasteurized. Old milk which has been pasteurized to extend its period of usefulness has a tendency to deteriorate more rapidly than the pasteurized fresh product. The use of a powdered milk known to be pasteurized within twelve hours of milking assures the physician and parent of the bacterial quality of the milk the baby receives.

Commercial pasteurization, except when carried out by means of proper equipment and efficient supervision, may be incomplete and is not always a reliable safeguard. It may be a shield behind which the sale of carelessly produced milk is made possible. The label "Pasteurized" sometimes furnishes a false sense of security.

Some Valuable Points Noted in the Use of This Food.—(a) The powdered milk used in this study is uniform in composition, being the combined milk of many herds.

(b) When liquefied, the cream does not separate or rise, thus preserving uniformity in the fluid state. Variations in the fat content of the formula are thus avoided.

(c) It is assuredly free of pathogenic bacteria, therefore it is safe.

(d) When liquefied it has a bacteria count which averages less than 3,000 per c.c., or less than the minimum requirements for certified milk.

(e) Its finely divided casein precipitates in soft friable curds exposing a much greater surface to digestive action, resulting in more complete assimilation. In this respect it closely resembles breast milk.

(f) Single feedings can be prepared as needed, thus eliminating the possibility of the baby getting milk that has been allowed to stand too long.

Comments.—I wish to make clear the fact that I do not consider powdered whole milk a panacea, for there will never be such a thing as a panacea in infant feeding. However, it does give us a valuable help in difficult feeding cases; as a food for prematures; as a complemental food; and for routine feeding where fresh cow's milk of unquestioned purity is not available.

In the hands of the masses, powdered milk is safe and to my mind is superior to other milks when used by the ignorant and uncleanly. I believe that all babies grow better, show less tendency to become anemic, and develop better teeth if vitamin C in the form of orange or tomato juice is made a regular addition to their diets. This applies to breast-fed as well as bottle-fed babies. Since the almost universal rule of the giving of vitamin C substances as now practiced, infantile scurvy has practically disappeared.

All of us who are engaged in infant feeding are stressing the importance of giving vitamin products more forcibly since the advent of powdered milks in the infant's dietary. In

this respect the manufacturers of powdered milks have been of invaluable service. I believe that more rachitic babies are found in cases where the mother has nursed four to seven babies than in the artificially fed group. The word "premature" as used in this paper is applied to babies weighing less than five pounds at birth. I think the word "immature" would be much more descriptive.

Conclusions.—Clinical experience with 100 infants given powdered whole milk during a two-year period shows that—

1. When an infant is deprived of breast milk and has demonstrated an inability to tolerate cow's milk, or when fresh cow's milk of unquestionable purity is not available, the powdered whole milk as produced by a spray process meets a greatly needed demand in infant feeding.

2. Fruit juices and cod liver oil should be added routinely as with fluid milk.

3. When properly modified and supplemented all the nutritive requirements are satisfied.

4. As a complementary food it was wholly satisfactory.

5. When given in concentrated solution, thus increasing the caloric intake without necessitating the ingestion of large amounts of fluid, it serves a good purpose.

6. Where one desires to give a high proportion of protein and salts it can be given to advantage in the concentrated form.

7. The purity and keeping qualities of this powdered milk are a blessing in the hands of the ignorant and the poor who are deprived of modern refrigerating facilities.

8. It is not any more expensive than other types of milk that have to be bought and paid for.

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DIARRHEAS OF CHILDREN *

By GILBERT DANIEL, M.D.
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THE diarrheal diseases of children constitute a problem of major importance to the general practitioner. To the industrial physician, this problem is multiplied ten-fold, due to the usually poor sanitary conditions, and the large numbers of children found in industrial communities. In recent times, poor working conditions throughout industry, with underfeeding of children the rule rather than the exception, have established the diarrheas in a more secure position, as the leader of the morbidity and mortality rates among the early-age group. While this paper may not be quite in keeping with the season, it discusses a disease that accounts for more deaths in the less-than-two-years group, than all of the infectious diseases of childhood combined. It is a disease which forces the older physician to realize that he will never become perfect, and one that makes the young doctor wonder if his release from school were not a bit premature. Therefore, it would seem that a discussion of this problem is a pertinent one at any time.

While diarrhea has been called a disease, it is only a symptom of a large number of the disordered conditions of children; but since it is the predominating symptom of these disorders, it has been convenient to classify all of these conditions as diarrheas, even though etiology, type of diarrhea and clinical course may show marked variations. In this paper a series of eighty consecutive cases, seen in

* Read before Fayette County Medical Society at Oak Hill, February 9, 1932.

my practice during the summer of 1931, is used as a basis for this discussion.

When we decide as to the cause of diarrheas we find that four factors are involved, namely, the season, diet, age, and previous general health of the child.

High atmospheric temperatures bring a high incidence rate of the diarrheas, due to the rapid bacterial growth in foods, and also to the depressing effects, with resulting lowered vitality, of excessive heat upon the small child.

Dietary faults can be found in almost every case of diarrhea. The breast-fed baby rarely has this type of illness, due to the sterile, balanced diet that it receives; in sharp contrast, one will see large numbers of sick children, at the time of weaning, or later, due to either contaminated or indigestible foods. Out of eighty cases, twelve were found to be breast-fed, the remainder being either on the bottle or fed a general diet. Of these twelve breast-fed babies, nine of the mothers were ill at the time of the diarrhea in the babies, which likely accounted, for the most part, for the illness of the children. Foods for the non-breast-fed baby, likely to be given too frequently, and in excessive amounts, soon cause an inability on the part of the child's gastro-intestinal tract to complete the digestive processes. The small child normally has a deficiency of gastric acids, so that there is little inhibitory action upon bacterial development: then the food masses, teeming with bacteria, are forced into the small intestine, where an alkaline medium favors further bacterial growth, with the double detrimental effects of fermentation and formation of bacterial toxins. The bacterial types responsible for these toxic effects have been demonstrated usually to be the ones normally found in the gastro-intestinal tract, but varying in numbers and location from the normal. In addition, a streptococcus frequently is found in the ulcerative diarrheas, while the toxic ones are characterized by the Proteus vulgaris. However, no absolute proof of a "diarrhea germ" has been demonstrated. Diarrhea, while not a communicable disease, is transmitted by flies by contamination of food; in the homes, where screening is not used, more cases of diarrhea will be found, and I have noticed that in certain summer seasons, when flies are present in larger numbers than usual, there is always a higher incidence of the disease.

The age factor of my small series does not entirely agree with other figures. Holt's lists show fourteen per cent under six months; my cases show only seven per cent in this class, and is probably accounted for in that my class of patients will show a larger percentage of the mothers feeding the children on the breast. Holt also gives in his series only sixteen per cent of children over two years affected. In my series this figure is twenty-five per cent. I believe this to be due to the tendency of coal-camp mothers to allow their children to eat anything that can be swallowed, regardless of food value. This leaves then a percentage of sixty-eight for the six to twenty-four months age period, and it is generally agreed that this is the period of greatest susceptibility to the diarrheas.

The previous general health of the child is important, in that a healthy child is not as likely to contract the diarrheal diseases, and should he do so, chances of recovery are very good. The tuberculous, the syphilitic, or the under-nourished child falls an easy victim to the disease, and often with an unfavorable termination. Increased nervous excitement, caused by dentition, or exposure to cold of the lower extremities, will soon give a lowered resistance, and an invitation for the appearance of diarrhea. I have noted several cases in which intestinal parasites seemed to be the sole causitive factor.

The diarrheas have been classified into so many types, according to etiology, morbid anatomy, clinical course, and termination, with overlapping of the many types, that one wonders, at times, if there can be any true grouping. An attempt has been made in this discussion to tabulate these cases, with the clinical side emphasized. In this way most

of our diarrheas will fall into four classes, namely, functional, toxic, inflammatory, and chronic.

The functional type is the most common, being sixty-five per cent in this series. This form of diarrhea is simply one of gastro-intestinal irritation, caused either by some unsuitable food acting as a direct irritant, or a nervous condition of the child, incident to dentition, or exposure, which, in turn, gives an increased peristalsis, and incomplete digestion of food. Any diseased or nervous condition of the mother may cause an alteration of the breast-milk, and supply the irritating element.

Onset of this illness is rather sudden. There is usually abdominal pain and distention, with moderate fever. In a few hours, frequent greenish, semi-liquid stools appear; and the child usually wants to drink quantities of water, only to vomit immediately. Marked nervousness is present, even to the point of convulsions.

Treatment is usually simple; exclusion of the irritant food from the diet, and removal of the irritant within the body by calomel or castor oil usually suffices. Then a bismuth preparation is given for its soothing effect, and a rice- or barley-water diet for two or three days will usually give a desirable result.

The toxic diarrheas are those in which a marked systemic toxemia is noted. These showed a rate of 12.5 per cent in the eighty cases. Onset may be sudden with vomiting, and early nervous symptoms, even to convulsions; other cases are manifested by a general condition of restlessness, discomfort, and a slight diarrhea. A marked fever always is present. As the disease progresses, there is increase in the frequency of the stools, and dehydration of tissues is rapid. The stools are usually green at first, changing to a brown, or even black color, and they are very offensive in odor. Unfavorable cases show a progressive loss of weight, with death resulting from exhaustion. Frequently pneumonia, convulsions, or nephritis hastens the death. In the favorable cases, the slightest deviation from the routine treatment may cause a disastrous end-result, and final recovery entails a rigid routine of diet and treatment for an extensive period.

Treatment, since the condition is a toxemia, is removing immediately the toxic materials. This is best accomplished by purgation, castor oil or calomel being most satisfactory, with normal saline rectal irrigations when purgation starts. Intestinal lavage with large quantities of fluid, however, is to be used only in the initial acute stages; later, small saline enemata, to allow absorption and combat dehydration, are indicated. By mouth, the child should receive nothing the first day, except small amounts of sterile water; on the second day, a barley- or rice-water diet is used until the stools improve both in appearance and in odor. Then the diet must follow a fat-free course, either as skimmed milk, or better, buttermilk. The latter, while a fat-free food, owes its action chiefly to its ability in altering the intestinal flora, eliminating the toxic bacteria. In some of my cases, a buttermilk heated to kill the lactic acid bacteria, failed to produce any change in the condition of the diarrhea. The taste of the milk may be improved by the addition of milk-sugar. There are various special baby foods, which possess merit only in selected cases. Protein milk is excellent for controlling the diarrhea, but its use is rather limited, due to its disagreeable taste.

Hygienic measures, while not the curative agents, serve to give the child the comfort that may make the difference between recovery and death. Diapers should be changed immediately after soiling; and some mild ointment on the buttocks will prevent excoriation and ulceration of the skin. Abundant fresh air, with the child kept cool, is essential.

Our next consideration is the diarrhea, which, while being toxic in effect, is accompanied by local signs of varying intensity in the intestinal tract. This is usually designated as the inflammatory type. In my cases there was an incidence rate of twenty per cent of this form.

In onset, this type is practically the same as the toxic, except that vomiting is not so marked; the ulcerative symptoms may occur immediately, or in a few cases, may be delayed for a considerable time, especially in the mal-nourished child. I believe that these differences may be better appreciated by giving a brief synopsis of two cases. These cases are typical of the disease, and are not presented with any unusual features in mind.

The first patient was a white boy of four years. Initial symptoms of vomiting three or four times started a few hours after ingestion of several green apples. He did not appear ill, but was irritable, and complained of abdominal pain. The second day, a mild diarrhea appeared, with green stools. The third day this condition continued until noon, when there was a small stool of apparently pure blood (no blood had been noted before.) Stools then were more frequent, varying in color from green to white, with considerable blood, and much mucus. Straining and pain on defecation became more marked. Abdominal distention and tenderness were becoming noticeable. The temperature range was 102 to 103.5 F., and the pulse was rapid with volume poor. To the fifth day the picture was the same; then a marked rectal prolapse caused almost constant pain and bleeding. The stools became very frequent (twenty in four hours), although some of them were nothing more than a few shreds of mucus. On the sixth day the patient was stuporous with a temperature elevation to 104 F. Delirious moments occurred with defecation, and there were twitching movements of the hands. The child continued in this condition to the tenth day, when the condition apparently improved. He became rational; the bowel movements decreased in number, and there was a slight temperature fall. However, on the next day the toxic symptoms reappeared suddenly with greater severity than before, and the child died within a few hours of toxemia and exhaustion. In regard to this short period of apparent improvement, I have noted this in several fatal cases of diarrhea, just before death. It is possible that there is a laxity in nursing care, or an attempt is made to feed the child, prompted by the signs of improvement, that can account for the rapid decline in these cases.

The other patient was a white boy of seven months. This child had been bottle-fed, almost since birth, with one of the commercial milk preparations. No fault was to be found with the food itself, but upon investigation it was learned that the mother, for some reason, was feeding only one-third to one-half the necessary amounts, so that the child had not gained any weight for a considerable time. The food was immediately increased to normal, and the baby gained some weight. However, after a time, due to careless preparation of the milk, an indigestion, with resulting occasional vomiting of feedings, kept occurring over a period of ten days. The child started losing weight; the vomiting became more persistent; there was a moderate rise in temperature, and a mild diarrhea, with green stools, appeared. The child, while irritable, did not seem to suffer much pain. The diarrhea continued for a week, becoming slimy in appearance and brown in color, with an offensive odor. Streaks of blood now were noticed, and while occasional stools contained considerable blood, there was never any marked bleeding, as in the previous case. Emaciation soon become noticable, and made rapid progress; the eyes were sunken, the abdominal surface became concave, and the skin was dry and wrinkled. The child would take no food; water, taken greedily, was immediately vomited. The patient gradually became weaker; even efforts to cry produced no sound, and he finally died, five weeks after the onset.

While these two cases illustrate the usual course of fatal cases, death may be hastened by pneumonia and convulsions, or other cerebral complications. In case of recovery, a strict régime of diet and care is absolutely necessary.

Treatment, in general, is the same as given

in the toxic form; that is, exclusion of milk from the diet, purgation with calomel or castor oil, and colonic saline irrigations, when purgation starts (purgation to be used only in initial stages), and then gradual return to normal diet, as symptoms improve. For the local inflammatory conditions, weak astringent solutions, as tannic acid or silver nitrate, used as injections are of value, although I believe that much damage is done by overenthusiasm for this line of treatment. The pain and tenesmus can usually be combatted successfully by some form of opium, both orally and per rectum. A rather valuable drug, to me, has been copper arsenite, in 1/800 to 1/500 grain doses. It is rather slow in action, but gives good final results, and I have had no unfavorable results with it. Most cases require stimulation at times, and when fortunate enough to obtain some real whiskey, I have found it to be most satisfactory, both in ease of administration and results.

The last diarrhea is the chronic type; it is either the end-result of an acute attack, or comes from a constant abuse of the digestive system. It is comparatively rare, being only 2.5 per cent of eighty cases. The symptoms vary in character and intensity from time to time. There is no marked diarrhea, but too frequent offensive stools, with occasional blood specks and mucous. The child will eat well at times; and then there may be periods of vomiting and refusal of food. There are varying degrees of emaciation; the heart action is poor, and cyanosis common. An irritability is usually constant and the patient sleeps poorly. The lowered resistance invites various infections of the skin, the mouth, and the middle ear, and acute respiratory complications appear with ease. All these symptoms may go on for weeks and months; the end-result is either a gradual decline to death (barring acute complications,) or a very slow recovery.

Treatment is individual for each case; a fat-free diet, with predigested foods, is necessary; buttermilk is of distinct value. Medication is limited, but with these cases I have employed colorless fluidextract of hydrastis by mouth, and weak solutions of silver nitrate (1-5000), as irrigations for considerable periods, with good results. However, medication, to be used successfully, must not cause vomiting or other digestive disturbances, for the chief object, that of rebuilding the complete physical condition, would be defeated. More than in any type of diarrhea, a complete program of hygiene must be observed.

In conclusion, we must agree that the diarrheas of children are a real problem; the treatment being chiefly diet, with medication secondary. We probably always will have these disorders with us, for the chief solution is one of education of mothers in proper feeding care of children. Until that visionary day of complete education comes, diarrhea, with its terrible morbidity and mortality rates, will continue to exact its toll every summer. There will still be many deaths; and of the recoveries, we will find, if we would only investigate it, that many of our deaths from acute respiratory diseases, and the various infectious diseases, during our colder months, really have an etiological cause of lowered resistance from the diarrheas of the previous summer. We may not have the diarrheas all of the time, but the effects of them are constantly with us.

THE PREVENTION AND CONTROL OF VENEREAL DISEASES

A report of considerable interest recently submitted to Congress by Surgeon General H. S. Cummings deals with the prevention and control of the venereal diseases. During the fiscal year recently ended, the state health officers of forty-three states reported to the Public Health Service slightly more than a quarter of a million cases of syphilis and more than 150,000 cases of gonorrhea. These diseases as a class continued to exceed the number of cases reported during the year of any other single communicable disease with the exception of measles.—U.S.P.H.S., March 11, 1932.

MODERN DIURETICS *

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NUMEROUS drugs have been in use for many years for the purpose of increasing the urinary output. Among the more common ones may be mentioned spirits of nitrous ether, caffein, digitalis, mild chloride of mercury, various potassium salts, scilla, spartein, strophanthus, theobromine, theocin, theophyllin.

During recent years several additional drugs have been found to produce a more extensive diuresis than could be obtained by the use of the older preparations.

In 1928 McCann[1] reported the use of parathyroid extract (Collip) in three patients with nephritis and generalized edema. He observed a diuresis of water and salt lasting for several days, after the transient elevation of blood serum calcium had occurred. Reitzel and Stone[2] report the use of this extract in the case of a pregnant woman with rheumatic heart disease complicated by mitral stenosis and auricular fibrillation. The edema was removed by the subcutaneous injection of fifty units of parathyroid extract. They believe the diuresis is due not to change in the heart and kidney, but to some osmotic change in the tissues themselves. The previous use of rest, digitalis, theophyllin and ammonium chloride had failed to relieve the edema. Christian[3] reported in 1927 that he preferred theocin to all other diuretics for cardiac edema, when digitalis and rest will not produce the desired effects and when the gastro-intestinal tract is not upset by the drug. He uses doses of 0.3 gm. to 0.5 gm. three times daily, then omits for twenty-four hours or longer.

Sinici, Marcan and Popesco[4] believe urea the most constant and active of diuretic drugs in the treatment of transudates and exudates. They use daily doses of 25 gms. to 50 gms. for three to seven days followed by several days of rest. They found the diuresis was in proportion to the amount of urea given.

Tests on urea show it is not as toxic as was once considered. When urea is ingested by normal persons, the urea nitrogen of the blood can be raised to a figure comparable to that obtained in chronic nephritis. When blood urea exceeds 70 mg./100 cc. symptoms of headache, dizziness and slight somnolence may occur. Crawford and McIntosh[5] at Rockefeller Institute for Medical Research, have given it over long periods of time in cases of advanced cardiac decompensation, in doses of 30 gms. to 60 gms. daily. The amount of urea excreted depends on blood urea and then on dosage so with constant administration equilibrium between intake and output may be obtained. The water excretion also is more or less parallel to that of urea. They believe the excess blood urea is excreted by the kidney and carries with it a considerable amount of water.

Urea functions well in contrast to various renal vasodilator drugs and irritants of kidney cells.

Harzlik, Bloomfield, Stockton, and Wood[6] have found a substantial diuretic action from the use of a water soluble preparation of bismuth sodiumtartrate. This solution, injected intramuscularly in doses of 0.03 gm. caused a prompt and well sustained diuresis in subjects with and without edema. There seemed to be no local or systemic reaction and no injury to renal functional efficiency.

They found the bismuth excretion to be more rapid and complete after injection of the water soluble salt than after that of the insoluble and oil suspended products.

Mercury was used as a diuretic in the time of Paracelsus, but this effect seems to have been forgotten until Jendrassik advocated the

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use of calomel for cardias dropsy in 1886. Since that period numerous mercury salts have been tried as diuretics. Mellville and Stehle[7] have reported the use of mercuric chloride on experimental animals. By dissolving this salt in blood serum and injecting into the vein they produced a very marked diuresis. But they found that if the injection was made directly into the renal artery a decrease in amount of urine resulted. Hence they concluded the diuresis was due to some effect outside the kidneys.

The newer mercury diuretics include novasural or merbaphen and salyrgan. Agnew[8] states that the latter salt was introduced first as an antiluetic mercurial agent, but its marked diuretic effect soon led to its entrance into other therapeutic fields. Its use was first reported in 1923 by Lucius Meister. Chemically the drug is the sodium salt of a compound resulting from the action of mercury acetate upon salicylallyl-amido-acetic acid. It is used in a ten per cent aqueous solution, one cubic centimeter of which contains 0.036 grams of mercury. It may be injected either intra-muscularly or intra-venously.

Agnew finds salyrgan one of the most potent diuretics available at the present time. It is comparatively harmless. While the prolonged use of any mercurial preparation may cause gingivitis, stomatitis or colitis in actua use of novasural and salyrgan such reactions have been very few.

The indications for their use are edema associated with cardiac disease, cirrhosis of the liver, polyserositis, polycythemia, Banti's disease, chronic nephrosis. Salyrgan may be of great help in ascites of malignant and inflammatory origin. In selected cases of edema in children salyrgan acts as promptly as in adults.

Diuresis is possible only provided sufficient renal tissue is still intact. Hence these drugs are contra-indicated in acute kidney conditions and in advanced nephritis. They have failed to give uniform results in hydrothorax, pericardial effusion and in ascites of tuberculous peritonitis. Their use is also objectionable in cases of severe anemia, cachexia, diarrhea, and intestinal hemorrhage.

Salyrgan has been found by some observers to be tolerated better than novasural. The probability of mercurial poisoning is in inverse proportion to the degree of diuresis produced. Where marked renal insufficiency exists excretion is necessarily retarded and toxic effects may be expected. It exerts a diminished influence when the anasarca is terminal. Another interesting observation has been the enhancing of the diuretic effect of these mercurials by the use of ammonium salts. Ammonium chloride has been established as a diuretic of the first order. Clinical experience has shown that in cases where either ammonium chloride or novasural and salyrgan have failed singly, their combined use has often resulted in increased urinary output. In at least a portion of these cases the blood plasma chloride was found to be subnormal. When this deficiency was overcome by the preliminary salt, the mercury preparations acted with their usual potency.

Gamble, Blackfan and Hamilton[9] state, "Following ingestion of calcium chloride, ammonium chloride, magnesium sulphate and ammonium sulphate in considerable amounts, the quantity of inorganic acid radicle which must be conveyed through the body fluids is greatly increased, without an appreciable accompanying increase in the amount of fixed base presenting for transport. These salts are for this reason described as acid producing. Administration of these salts causes an increased acidity of body fluids demonstrable in the blood plasma and an increased excretion of fixed base in the urine. The diuretic action of these salts may probably be correctly referred to increase in acidity in the body fluids."

At the Mayo Clinic ammonium chloride is given by mouth in amounts as high as 90 to 150 grains daily. The salt is given in divided doses in peppermint water or as enteric coated pills. It is best given for three or four days before administration of the novasural or

salyrgan, and may be repeated later if necessary.

The exact mechanism by which mercurials cause diuresis is not well understood. Jackson found experimentally that after the use of salyrgan the respiration was accelerated, the heart action increased, slight increase in blood pressure, and decrease in kidney volume. He feels that the action of the mercury is on the vascular structure of the body, and that the diuresis is related to these vascular responses. Richards believes that an increase in intraglomerular pressure is the explanation.

Salyrgan is applied only in a 10% solution. The initial dose, either intramuscular or intravenous, should be 0.5 cc. to test the patient's tolerance. This dose may then be increased to 1 cc. and a maximum of 2 cc. The injections are made at intervals of three to five days. Novasural may be used in the same dosage.

The effect of the injection is usually evident in from two to four hours. The maximum diuresis occurs in six to ten hours, then gradually slowing down, but usually lasting for an additional twenty-four hours.

Case History.—W. B. S., white, male, aged 66 years. In May, 1928, experienced sudden attack of shortness of breath during the night. Improved after spending two weeks at rest in bed. In June symptoms returned and rest in bed brought very little improvement. On July 19 was admitted to the hospital. Examination showed the R.C.D. extending 15 cm. to the left and 4 cm. to the right. The R.M.D. was 6 cm. His apex rate was 132 with many extrasytoles. The radial pulse was 100. B.P. was 158 to 170 systolic and 100 diastolic. He showed considerable improvement while in the hospital and returned home in about one month. He gradually grew worse with increasing edema and orthopnea, though he remained strictly at rest with digitalis and morphine therapy. As the edema increased signs of abdominal fluid became more pronounced and his breathing more difficult. On December 23 it was necessary to do a paracentesis and two quarts of ascitic fluid were removed. This had to be repeated again three days later and again, on January 19, his condition was so uncomfortable that it was decided to try salyrgan, and he was given 0.5 cc. in the vein. This resulted in a diuresis of three quarts that day and 1¼ quarts in the following twenty-four hours, a marked contrast to a urinary output which had not exceeded 300 to 500 cc. for several months. Two days later the fluid had reaccumulated to such an extent that the abdomen was tapped again and 1 cc. of salyrgan injected. This resulted in a marked clearing of the swelling in his trunk and hips and the legs were much improved. The dose of salyrgan was gradually increased to 2 cc. For a time it was necessary to repeat injections every four or five days. By the first of March this interval had lengthened to one week. In August the dose was increased to 2.5 cc., and by September the interval between injections had increased to about two weeks. The myocardium, however, showed no other evidence of recovery. The salyrgan was continued, giving 2.5 cc. every thirteen to fifteen days until the twelfth of March when the patient died suddenly from pulmonary embolism.

He received in all forty-seven injections of salyrgan over a period of thirteen months and three weeks. At no time was there evidence of renal injury or other signs of mercurial poisoning.

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A PLEA FOR THE INCURABLES; FOR ALLEVIATION OF THEIR SUFFERING

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While death is the one certain thing its manner is most uncertain. Few of us can choose our ending. If we could there would be wide variations. Says Pliny, "A short death is the sovereign hap of human life."

Some will so quietly glide into the harbor that the step-off will hardly be perceptible, while others will be thrown by tidal waves upon rocky shores. For these last unfortunates I make my plea. The presence of suffering and death should bring to the front all that is best in us. I can scarcely believe that even the calloused hearts of the blood-thirsty Romans must not at times have been touched when those in the arena stood up before the Emperor and exclaimed, "We who are about to die, salute you."

Much has been written about the sacredness of the childbirth chamber, the perils and pains of motherhood—a worthy theme; far be it from me to belittle it, but the battles of the lying-in-chamber are comparatively short and usually terminate in victory. How different to those doomed to failure, those to whom hope is denied, those whose sufferings are numbered not by hours or even days but by weeks, months, oft-times years. Should they not be the objects of our tenderest care; more important, our intelligent care? Alas this is not always true. For some, to me, inscrutible reason most physicians and nurses will not give sufficient morphine.

Do not misunderstand me. The average physician and nurse does give morphine to a sufficient number of people but to the incurable they do not give a sufficient amount. A few illustrations might help to bring out my meaning. Some years ago a patient of some considerable local prominence was under my care. After a time it became plainly evident to himself, his family, in fact, to all that he was doomed. One day he asked me if he couldn't have more morphine than he had been getting. I told him he could have all he wanted and told his special nurse in his presence to give him all he wanted. This amazed the nurse and she exclaimed that he would want a great deal. The next day he told me he was suffering, that he wanted more morphine than he was getting and asked me once more to make it plain to the nurse, saying in words I shall never forget, "Doctor, I am too sick to argue." Even after this it was almost impossible to get this nurse to give him a sufficient amount to make him rest.

Mrs. T., the victim of an inoperable carcinoma, was deeply religious and ready, perhaps a trifle impatient, to go. Under laudanum she went into a sleep from which the family were unable to awaken her. They became alarmed and sent for a physician for this purpose. She unfortunately lived for several months after this, and said to me, "Why did they not let me alone?"

I have conducted a hospital for more than twenty years and I very frequently see physicians trying to tide along their carcinoma patients, treating them much as they would treat patients with an acute illness; giving them aspirin, bromides, hyoscine, anything but full and frequent doses of morphine. Not infrequently we have automobile accidents in which it is perfectly apparent that death is inevitable; the patient is wildly delirious and has to be restrained, a most pitiable sight to the family. In these cases I do not hesitate to give doses sufficiently large and sufficiently often to overcome this excitement. The advisability of strenuous efforts to prolong life for a short time after it is apparent to all that

hope of recovery is gone does not appeal to me.

In its last analysis it amounts to this: The physician and nurse say in effect to the patient, "It is true you are doomed; there is no hope of your recovery but if you submit to our every command, give up everything you want to do, do everything you do not want to do, we may possibly—*only possibly*—prolong your life a short time." Is this right, is it sensible, is it humane? I think not unless the patient asks for it, and he almost never does. Recently the newspapers seemed to delight in relating the fact that Marshall Foch, the man who had commanded more men than any other human being, should be compelled by physicians and nurses to submit to their orders. Certainly after the first week or so it was apparent that the end was inevitable. Then why not let him die in peace? One wonders if Clemenceau, the Tiger, would have tamely submitted. Near me an old man about one hundred was dying. His family told me that for some unknown reason his sole desire seemed to be to get out of bed and go to a certain corner of the room; they had been for some hours holding him in bed. I at once ordered them to let him follow his desire, simply assisting him so that he might not fall.

How sensible was the action of a world renowned radiologist! A little stomach distress had occurred. He thought little of it as he had been wined and dined so much lately, for unheard of success had come to him. Well, a film would not hurt. One wonders what his thoughts were as he held this film to the light. Whatever they were but two words escaped him: "Inoperable Carcinoma." He was due in a few hours in a neighboring city to read a paper on carcinoma. He jumped into his car, drove to the appointed place, read his paper, returned to his home, and "set his house in order." He refused radium and as soon as appetite left, refused food. I do not intend to enter into an argument as to whether it would be right or wrong to take the lives of the incurable, but I challenge the advisability of taking active measures to prolong some of these lives. Perhaps you do not agree with me—possibly you may in the future.

I remember when I was a very young physician making a slight effort (indeed, it was a very slight effort—and I am thankful to say it was entirely unsuccessful) to resuscitate a monster despite the plea of its mother to let it alone. Now, since I have grown older and I hope wiser, when I am in serious doubt as to the advisability of the resuscitation of the newborn, I turn it over to the youngest and least experienced nurse I have. Can we do better than follow the Golden Rule?

A word as to the legal aspects. Luckily the men in charge of narcotics at present seem to be possessed of both heart and brains and I have heard of no act of inhumanity for several years. How different some years ago when a certain narcotic inspector seemed to have neither heart nor brains. I remember a case occurring under his reign. A woman from a distant point in the country, the diagnosis could be made by the nose alone—carcinoma of the uterus. I told her frankly there was no use in an operation, radium, x-ray, or anything other than morphine. I told her to go home and prepare to die, to take large and frequent doses of morphine. In a short time I received a pitiful letter from her saying that the doctors in her neighborhood would not give her morphine because of fear of getting into trouble with the narcotic inspector. I wrote the inspector and asked that I might be allowed to send it to her through the mail. I don't think I ever heard from him.

In conclusion, when it is perfectly plain that the case is incurable, that the end is not far away, that suffering whether physical or mental is present, and that morphine is indicated, give it sufficiently often and in sufficiently large dose to accomplish the desired object. Give it as you would want to receive it if you were the patient.

THE SURGICAL TREATMENT OF PEPTIC ULCER *

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THE SUCCESSFUL TREATMENT of peptic ulcer implies the joint employment of both medical and surgical measures since the lesion, in the absence of accurate knowledge of the true, underlying causative factors, must be dealt with according to the clinical and pathological features presented by the individual case.

Since Billroth, following his successful removal of a carinoma by pylorectomy in 1881, directed his efforts to the cure of peptic ulcer by surgical measures, a voluminous literature, both medical and surgical, has been accumulated. There are important points, notably the etiological ones, upon which definite knowledge is lacking; the inflammatory, neurogenic, circulatory, bacterial and digestive or corrosive theories, each has its advocates but neither has been susceptible of scientific substantiation. As a consequence the aim of treatment has been to secure a healing of the ulcer or its eradication with a correction of the pathological defects caused by it, together with the institution of the measures as in the light of our limited knowledge, are believed to be of value in the prevention of recurrence. In the many types of operations that have been employed the underlying considerations have been to afford as far as possible a restoration of physiological function, free drainage of the stomach and a partial neutralization of stomach acids by intestinal alkalies.

The occurrence of perforations, bleeding and maliginant degeneration in ulcers left behind has led to the conviction of the desirability of destroying or removing the ulcer or ulcers in addition to meeting these indications. The wide variation in the degree and character of pathology encountered in peptic ulcer is such that no single operation suffices to meet the indications in all cases. The attainment of success in the surgical treatment of peptic ulcer is largely dependent upon three factors; choice of operation, selection of cases for operation, and efficient pre-and post-operative medical management.

For the purpose of discussion the operative procedures with which we have had personal experience may be classified as conservative and radical. The conservative operations comprise, (a) local excision with cautery or knife followed by suture; (b) local excision plus gastro-enterostomy or pyloroplasty, (c) gastro-enterostomy or pyloroplasty alone. The radical operations consisted in the removal of the ulcer bearing area by the Billroth, Polya, or sleeve re-section methods.

In making a choice of the type of operation to be employed in a given case primary mortality and end results must be the chief considerations. It is obvious that where resistence and vitality have been lowered by long continued disease, inadequate nourishment or continued blood loss, the pre-operative administration of fluids, glucose and blood transfusions are essential in the preparation of the patient for operation, and it is equally obvious that the safety of the patient will be enhanced by the selection of the simplest operation compatible with the correction or alleviation of the pathology presented. While the x-ray is an invaluable aid in diagnosis, the extent of the local pathology will be revealed by ocular inspection only. Quiescent ulcers will permit safer attack than those showing evidence of activity.

Perforation into the free cavity or into adjacent viscera; fixation or mobility of the duodenum, pylorus and stomach; the presence of inflammatory exudate, recent or calloused; obstruction due to cicatricial contraction; exudative or massive adhesions; loca-

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tion and number of ulcers, in varying combinations present problems that are most satisfactorily solved by the selection of that operation best suited to the given case. The clinical observation that 90% of gastric ulcers occur at or near the pylorus and along the lesser curvature led Rodman to advocate the resection of ulcer bearing area when dealing with ulcers in this location. Time and experience have demonstrated the wisdom of this procedure particularly when the ulcers are of the calloused variety, and a determination of its employment will influence the choice of operation. Finally a consideration influencing the choice of operation is the efficacy of large resections in the reduction of gastric acidity. The observation that following resection of the ulcer bearing area of the stomach there is a lowering of gastric acidity and further, that freedom from recurrence is the rule, to which, however, there are exceptions, has led to the assumption in some quarters that where there is no acid there will be no ulcer. On this hypothesis Finsterer and his followers have practiced the ablation of the acid bearing portion of the stomach, regardless of whether the ulcer be duodenal or gastric, with the avowed intention of producing an acidity. We have had no experience with such massive resections other than when necessitated by the location and character of the ulcer, believing the magnitude and extent of the operation to be prohibitive when compared with the favorable results obtained by simpler and less dangerous procedures. Furthermore, the presence of hydrochloric acid is essential to the proper physiological action of the stomach and its continued absence, howsoever produced may be the forerunner of serious secondary disease. The selection of the type of operation to be employed is, and should be, the concern of the surgeon; the selection of the case for operation should be the joint concern of the internist and the surgeon. While unanimity of opinion is not yet to be obtained, accumulated experience and knowledge permit fairly definite indications for operative treatment. The three indications upon which all agree are: perforation, hemorrhage, and obstruction. Immediate closure of an acute perforation is the essential indication. Approximately 80% of the acute perforations of duodenal ulcers occur on the anterior wall, and 90% of the acute perforations of stomach ulcers occur on the lesser curvature of the prepyloric portion; perforation on the posterior walls is frequently sealed by adhesion of adjacent structures. Closure of the opening with superimposed layers of Lembert sutures and an omental fat graft suffices not only to control leakage but in a goodly percentage to secure healing of the ulcer as well. The employment of additional measures such as excision or cauterization of the ulcer, pylorplasty, gastroenterostomy or resection of stomach will depend upon the extent, character, and location of the local lesion and the general condition of the patient. The prime consideration in such catastrophies is the saving of life: this is accomplished by the stoppage of the leak. It may be stated as a general rule that the greatest safety to the greatest number prohibits doing more, yet, in the presence of marked pyloric or duodenal obstruction, granting that the condition of the patient permits, a pyloroplasty or gastroenterostomy may be done with reasonable safety, giving assurance of permanent relief and obviating a second operation. If the perforation occurs in a calloused ulcer on the lesser curature, the infiltration surrounding the ulcer may not only prevent suture but may arouse the suspicion of malignancy as well, in which event excision or gastric resection will be indicated, as the condition of the patient and the judgment of the operator dictate. Perforations in which more or less successful efforts at closure have been made by nature will present in three clinical groups; one, rather extensive epigastric peritonitis with subhepatic or subphrenic abscess; two, localized peritonitis with recent inflammatory exudate matting together structures adjacent to the perforations; and, three, chronic perforations in which the acute inflammatory phenomena have disappeared

and the perforations remain sealed by close adherence of adjacent tissues. In the first two groups, the perforation itself, surrounded and sealed by acutely inflamed tissues, will neither demand attention nor permit surgical attack, the operative treatment consisting in the first group of drainage of the purulent deposits and in the second of gastro-enterostomy. In the third group the location of ulcer and the structures to which it is adhered will determine the nature and extent of the operation.

Hemorrhage.—Hemorrhage in both gastric and duodenal ulcers occurs in approximately 25% of all cases appearing usually in one of three forms; more or less constant seepage sufficient to produce anemia, single or recurring hemorrhages of appreciable amount as hematemesis or malena, and massive bleeding, which immediately threatens the life of the patient. Ulcers that show constant seepage and recurring hemorrhage of appreciable amount which continue in spite of appropriate medical treatment should be subjected to operation. The type of operation employed should include the destruction of the ulcer, since such ulcers when treated by conservative operations which do not include their eradication show in many instances a definite tendency to further bleeding. The treatment which we have employed for massive hemorrhage consists of rest in bed, physiologic rest of the stomach, fluids and nutrition in the form of glucose administered by rectum subcutaneously, and intravenously, the exhibition of coagulants, chiefly fibrogen by mouth and subcutaneously, and whole blood transfusions. The fluids introduced intravenously should be in small amounts, glucose in hypertonic solution and blood transfusions of 200 to 300 cc., since the employment of larger quantities raises the blood pressure and so tends to induce further bleeding. Under this régime the bleeding as a rule will cease, permitting of further study of the patient and a determination for or against operation upon the associated symptoms, history and laboratory findings. Occasionally a case will be met in which such measures fail when the control of the bleeding becomes an indication for immediate operation.

Duodenal Ulcers.—The patients with duodenal ulcers that we have selected for operation have presented one or more of four conditions; perforation, both acute and chronic, repeated or long continued hemorrhage, pyloric obstruction and long chronicity. A single massive hemorrhage is not regarded as an indication for operation; in the absence of the remaining conditions the chance for healing under medical treatment should be afforded until further bleeding or chronicity demonstrate its futility. Chronicity in spite of appropriate medical treatment is accepted as a failure of the latter and an indication for operation. For some unexplained reason duodenal ulcers do not show a tendency to malignant degeneration; hence it has been argued that chronicity alone does not justify resort to operation. The danger of perforation, the menace of hemorrhage, the possibility of obstruction and the continued discomfort produced by the chronic ulcer afford sufficient grounds to negate this assumption. The types of operation which we have employed in the treatment of duodenal ulcer are: excision alone, gastro-enterostomy alone, excision or cautery destruction of the ulcer combined with gastroenterostomy or pyloroplasty, and resection of the pylorus and duodenum. Resection of the ulcer alone was tried in a small series of cases and abandoned since three patients so treated showed recurrence within a year. Excision of the ulcer with a pyloroplasty, Finney or modified Mikulicz, has been employed for ulcers situated on the anterior wall near the pylorus, showing a minimal amount of duodenal distortion. For the satisfactory performance of this operation it is essential that the pylorus and duodenum be readily mobilized so as to afford access for the necessary manipulation. In the comparatively limited number of cases conforming to these limitations it has proved a satisfactory procedure. With increasing experience gastro-enterostomy is less

frequently employed alone as the treatment of choice in duodenal ulcer. The destruction of duodenal ulcers is not an imperative indication, but when local conditions make this a feasible and reasonably safe procedure it is advisable in that it at once gets rid of the ulcer, avoiding dependence on a slow healing process and obviates the possibility of subsequent bleeding and perforation. The eradication of the ulcer is preferably accomplished with the cautery after the method at Balfour, in that the bleeding and operative trauma are decidedly less and the destruction of the ulcer just as certain. The cautery wound is closed with Lembert sutures and covered with an omental fat graft after which a posterior gastro-enterostomy is done. This conservative procedure will meet the indications in the majority of simple duodenal ulcers and the excellent results obtained place the burden of proof upon advocates of other methods to show just cause for such advocacy. In the light of such experience it will be a difficult matter to convince one of the wisdom or expediency of adopting more radical resections in the treatment of simple, uncomplicated duodenal ulcers. In the presence of obstruction due to cicatrization in the duodenum and pylorus dependent upon ulcer of the duodenum gastro-enterostomy alone affords beneficient results; the greater the obstruction, the more certain and more complete the relief. When the ulcers are multiple, and they are in from five to six per cent of cases; when situated on the posterior wall, difficult of access and so calloused as to render healing difficult; and when so situated the ulcer has perforated into the head of the pancreas with fixation of duodenum and pylorus to the latter organ, we have come to the practice of resection of the duodenum and pylorus, employing as a rule the Polya technique. Ulcers presenting such pathology do not lend themselves to cautery destruction or excision with pyloroplasty: our experience with gastro-enterostomy alone in such cases has been disappointing in that persistence of gastric discomfort, recurrence of bleeding, pancreatitis and pancreatic malignancy have been noted. It is true that the radical operation carries a graver operative risk, but this is justified by the greater assurance of relief.

Gastric Ulcer.—The indications for the institution of surgical measures in the treatment of gastric ulcers comprise those which apply to duodenal ulcers, namely, perforation, hemorrhage, obstruction and chronicity, to which must be added the danger of malignant degeneration. While malignancy does not become engrafted on chronic ulcer with the frequency which some authors have stated, personal observation has afforded proof of its occurrence. Patients with frank cancer at the time of examination have given ulcer histories of long duration: patients upon whom in our earlier experience we had done gastro-enterostomy alone for chronic gastric ulcer have returned years later with gastric carcimona. This common observation of the tendency of chronic gastric ulcer to undergo malignant transformation would seem to render imperative the destruction or removal of the ulcers in the course of operations undertaken for their relief. The operations with which we have had experience are gastro-enterostomy alone; excision of ulcer alone; cauterization or excision combined with gastro-enterostomy; sleeve resection of the pars media, and resection of the pylorus, antrum, and such part of the pars media as may be necessary to include the ulcer bearing area, Billroth and Polya types. The above mentioned observation of the occurrence of carcimona in chronic ulcer treated by gastro-enterostomy alone has led us to abandon such conservatism and in the cases selected for this procedure to supplement it with cauterization or excision of the ulcer. Conversely simple excision alone has been abandoned and is always supplemented with a gastro-enterostomy. In three patients presenting chronic saddle ulcer of the lesser curvature, pars media, a sleeve resection was done. In two of these recurrence was noted and relief obtained by a subsequent gastro-enterostomy. The cases to which the combined procedure

of excision or cauterization combined with gastro-enterostomy is applicable are those in which small, resectable ulcers are situated on the lesser curvature, or in the pars media, and all ulcers situated high on the lesser curvature or posterior wall. Ulcers of the lesser curvature showing marked inflammatory deposit are best treated by sleeve resection with a gastro-enterostomy, or by pyloric resection, since the defect left by excision or cauterization is such as to render accurate suturing difficult and to produce marked distortion and deformity. Ulcers with a crater of one c.m. or less in diameter are rarely malignant, and are susceptible of conservative treatment; when the craters present larger diameters the presence of malignancy is to be considered as possible and unless one feels confident of his ability to distinguish by ocular inspection between simple chronic ulcer and ulcerated carcimona, or ulcer with beginning carcimona, the patient should be given the benefit of the doubt and radical treatment employed. Ninety per cent of gastric ulcers occur on the lesser curvature and posterior wall at the pyloric end of the stomach, the ulcer bearing area of Rodman. The presence of inflammatory deposit in the stomach wall around the margin of the ulcer, the presence of perigastric adhesions or of sealed perforation into the liver, pancreas or gastrohepatic omentum, and the size of the stomach at this point makes difficult, if not impossible, the employment of conservative excision or cauterization: the probability of failure of healing with a continuation of symptoms and the possibility of perforation, bleeding and malignant transformation if gastro-enterostomy alone is done, have led to the rather universal acceptance of pyloric resection as the operation of choice in such cases. The Billroth No. 1 gives a nearer approach to physiological restoration, but the technical difficulties encountered in its performance have led us to adopt the Polya modification almost as a rule.

A proper selection of patients for operation and the use of good judgment in the choice of operation for the given patient combined with dietary and medical supervision for at least one year following operation, offer the sufferer from peptic ulcer an excellent chance for relief. Peptic ulcer may recur after any type of operation, being located at former suture line, in new locations in the stomach and duodenum, and in the jejunum at or below the site of anastomosis with the stomach. Fortunately this occurs in but a small percentage of cases, the cause for their formation being as elusive as that for their primary appearance. Other causes for failure are to be found in faulty operative technique; in leaving behind an infected gall bladder or diseased appendix; in activation of an unremoved ulcer; in overlooking distant foci of infection; in the resumption of a faulty diet; and finally, it should be borne in mind that in the vast majority of patients presenting gastric symptoms, the latter are due to causes extrinsic to the gastric tract; granting the coincidental occurrance of peptic ulcer in such a patient, its operative correction is doomed to complete or partial failure in so far as securing complete freedom from symptoms is concerned unless the extra-gastric causes of dyspepsia can be eliminated.

VEGE-SEA AND ORO BRAND KELP SALT NOT ACCEPTABLE FOR N.N.R.

The Council on Pharmacy and Chemistry reports that "Vega-Sea" is stated by the Oakland Food Products Company, Oakland, California, to be dried and powdered kelp, while "Oro Brand Kelp Salt" is stated to be a flavored mixture of this kelp with ordinary salt. The marketing of dried kelp or of a mixture of kelp and salt does not present any originality, and hence there is no warrant for the sale of these preparations under coined names. The Council found "Vege-Sea" and "Oro Brand Kelp Salt" unacceptable for New and Nonofficial Remedies because they are marketed with claims that are unwarranted and misleading and because the recognition of proprietary names for these unoriginal preparations is not in the interest of rational therapy.—Jour. A.M.A., February 20, 1932, p. 640.

VITAMINS *

By D. A. WATKINS, M.D.
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A GROUP of substances of unknown composition, present in very small amounts in natural foodstuffs, which are essential to normal metabolism, and the lack of which in the dietary cause deficiency diseases—Vitamin, the earliest term used, has the objection that the prefix "vita" ignores the importance of the amino acids, and "amin" having a definite and specific meaning in organic chemistry is misleading, for the fat-soluble A probably has no nitrogen, nor is there any evidence that either is an amine. Other proposed names are: "food harmonies," "growth substances," "growth determinants," and "accessory food substances," but none seems to be suitable.

As early as 1881, Lunin published a paper stating he had fed purified rations to experimental animals which failed to produce growth. However, the first piece of work really to stimulate interest was that of Eijkmann, a Dutch scientist. In 1897 he produced experimental avian beri-beri, by feeding polished rice to poultry. Hopkins of England, as early as 1906, through his experiments postulated that milk must contain some hitherto unknown accessory food factor. He is given credit, therefore, for suggesting the existence of these food factors that we now call vitamins. Between the years 1910-'12, Dr. Casmir Funk substantiated the work of Eijkmann, and gave the substance the name of vitamine, which was later changed to vitamin. The first work in this country was by Osborn and Mendell in the laboratories at Yale, and by Hart, Babcock and McCollum at Wisconsin. They found a fat-soluble factor in cod liver oil, butter fat and egg yolk, the absence of which caused loss of weight and xerophthalmia. They suggested that the fat-soluble factor be known as Fat-soluble A, and that the water soluble factor in rice polishings and yeast be called Water-soluble B.

Following this came the discovery of Vitamin C, the antoscorbutic factor, found in citrous fruits, sprouting grains, green leafy plants, many vegetables and fruits. Vitamin A was found to possess antirachitic properties, and McCollum and co-workers found that the A Vitamin could be destroyed and not the antirachitic properties. This led to the discovery of Vitamin D. Recently, Dr. Evans, of California, introduced proof of the existence of an antisterility factor which he termed Vitamin X, and later, Vitamin E. More recently, the California workers have suggested a new factor, Vitamin F, but the existence of such is questioned by others. Within the last few years, it has been proven that the old Vitamin B is really a complex, consisting of at least two and possibly more factors. Scientific workers have given recognition to two fractions. The first, which causes beri-beri, and which is thermo-labile, is now called Vitamin B by American workers, and Vitamin B1 by British workers. The second fraction of the old Vitamin B complex, which promotes appetite, cures skin lesions (pellagra), and which is thermo-stabile, is now called Vitamin G by American workers, and Vitamin B2 by British workers.

Classification:

Group I—Fat-soluble.
1. Vitamin A.
2. Vitamin D.
3. Vitamin E.

Group II—Water-soluble.
1. Vitamin B.complex
   (a) B1
   (b) B2, (G), (PP).
2. Vitamin C.

Vitamin A is found in the unsaponifiable

* Original paper.

portion of those fats which contain it. It is fairly stabile to heat in the absence of oxygen, but in the presence of oxygen is destroyed. In a general way, the Vitamin A content of foods is related to pigmentation, i.e., those foods rich in carotinoid pigments are usually rich in Vitamin A.

Vitamin A has a fairly wide distribution in nature. Absent, as a rule, from vegetable oils, it is found in mammalian and fish liver oils, eggs, tubers, fruits, green vegetables, etc. Its amount in milk, like that of all vitamine, is variable. While the action of the vitamin is unknown, it is observed that the effect of its absence is to cause, in addition to cessation of growth, a breakdown of epithelium, which suffers a change of type, becoming squamous and keratinised. This may occur at many points,—an increased susceptibility to infection resulting. In rats, in addition to the characteristic xerophthalmia, not invariably present, otitis media, mastoid disease, and sub-lingual abscesses have all been described. Lung consolidation is particularly common in Vitamin A starved rats. Various workers have noted the frequency of renal and vesical calculin. It has recently been suggested that Vitamin A should be called the "anti-infective" vitamin.

Vitamin B complex, the anti-neuritic factor, is soluble in water and water-alcohol solutions. It is quite easily destroyed by heat. The appetite promoting factor, pellagra preventing factor, (Vitamin G,) is soluble in water and water-alcohol solutions. It is not destroyed by heat. Vitamin B is widely distributed in nature, being contained in most natural foodstuffs. It is strongly present in the outer covering and germ of wheat, rice, and other cereals, and in most yeasts. The distribution of the thermo-stabile vitamin has not as yet been worked out. It is probably more abundant in foods of animal origin than in cereals. Deprived of B2, but supplied with B1, young rats fail to grow, and later, as a rule, develop dermatitis and other symptoms, a condition probably analogous to pellagra in man. Though marked deficiency of Vitamin B in the diet results, within ashort time, in a fatal outcome from beri-beri, a cure, in the early stages, is easily brought about by feedings containing sufficient of this substance. There are many cases in which the deficiency in the vitamin is not marked, the symptoms of paralysis do not occur, and in which death would not be likely to result. In such cases a number of symptoms have been reported. Robert McCarrison suggests it is possibly from this cause, loss of appetite, anemia, asthenia, impaired digestion, and colitis. Of the various attempts that have been made to connect Vitamin B deficiency with indigestion, chronic constipation, myocarditis, rheumatoid arthritis and even cancer, one can say only that at the moment they serve little purpose beyond increasing the sale of proprietary preparations.

Vitamin C, the antiscorbutic factor, is also water-soluble, is stable in acid solutions, but destroyed by alkalies. It is also very susceptible to oxidation, but may be considered fairly stable to heat if oxygen is absent. The vitamin is found in green leaves, fresh fruit, fresh root vegetables, tubers and meat, but its distribution shows some peculiarities. Thus, it is not abundant in grape or lime juice, and the antiscorbutic potency of root vegetables varies within wide limits. Very little or no Vitamin C remains in commercial dried fruits and vegetables, but tinned fruits may retain a good deal. Allowed to germinate, dry cereals, previously devoid, redevelop the vitamin, a fact of great practical importance. While the nature of Vitamin C's action in the body is unknown, its absence eventually leads to a clear-cut syndrome usually seen in this country in infants from six to twelve months old. Infantile scurvy very occasionally occurs in breast-fed children of ill-nourished mothers. A pint of fresh cow's milk daily should, in the summer at least, serve to protect an infant. Scurvy is uncommon on a staple diet of fresh boiled milk. The instability of Vitamin C makes cow's milk, (usually given diluted,) an uncertain quantity, and it may roughly be said that boiling,

(particularly a second time,) and pasteurization lower its antiscorbutic value. All dried milks and patent foods are suspect, though much depends on the manufacturer's methods. Many patent foods, even prepared with fresh milk, are liable to produce scurvy; it is possible that the usual alkalinity of the food affects the vitamin. It is reckoned that an infant is born with three to four months' store of Vitamin C, and antiscorbutics are usually not given until the third month. It might be wiser to start earlier when patent foods are used from birth. Grape juice is not a powerful antiscorbutic; orange juice, thinned tomato juice, Swede turnip juice, in doses of about four drachms a day, should all serve to protect. In the treatment of established scurvy, alcohol decitrated lemon juice is useful, in that it does not upset the stomach so readily as untreated orange or lemon juice, and enables larger doses of the vitamin to be given. Improvement may be noted in twenty-four hours. It should be understood that a condition of latent scurvy may arise, and it is quite common, in which an infant depleted of Vitamin C shows no symptoms beyond ill health and failure of growth. The diagnosis in such cases depends on the immediate response to antiscorbutics.

Vitamin D, the antirachitic factor, is quite stable to heat, is soluble in the fat solvants, is stabile to saponification reactions, and is associated with the sterol fraction of those fats containing it. The outstanding symptom of Vitamin D deficiency is the softness of bones and teeth. The ratio of calcium to phosphorus in the diet is a most important factor. Calcification is enhanced under all conditions, by Vitamin D. We have more accurate knowledge of Vitamin D than any other vitamin. It is only about seven years since it was distinguished from Vitamin A, a process that required very careful planning and experimenting, as the two factors are closely associated in many substances. The fact that Vitamin A could be oxidized made it possible to separate out a substance which is not essentially destroyed by oxygen even at high temperatures,—Vitamin D. At first it was difficult to make this agree with the fact that irradiation with ultraviolet light also prevented rickets. Dr. Chick and her associates noted that in the winter only the children who received cod liver oil showed improvement, while in summer, children who did not receive the oil also recovered from active rickets. Dr. Chick came to the conclusion that in some manner the rays of the summer sun exerted this curative effect. Dr. Huldschinsky, of Berlin, who was also working on rickets, made the remarkable discovery that when he exposed a rachitic child to the quartz mercury vapor lamp, recovery took place. As a result, the scientific world realized that certain radiations, either solar or from an artificial source, and a substance present in cod liver oil could cure rickets. These two factors were soon connected when Professor Steenbock of Wisconsin and Professor Hess of New York, simultaneously, showed that it was not necessary to irradiate an animal to cure rickets, but that exposure of the animal's food to a source of ultraviolet radiations was effective. Attention was thus directed to substances in which Vitamin D could be developed by the action of the short wave length radiations. It had been found that the antirachitic vitamin was present in the unsaponifiable portion of cod liver oil. The chief constituents of the non-saponifiable fraction of these are the class of substances known as sterols. The principal sterol of the vegetable kingdom is sitosterol, and of the animal kingdom, cholesterol. Cholesterol is present in all living cells, and is rendered antirachitic by irradiation. It was thought that cholesterol was acted on by ultraviolet light to produce Vitamin D. Cholesterol is present in the skin, and it was supposed that the short wave lengths, which are known to be blocked by very thin layers of solid material, penetrated sufficiently to activate this cholesterol, which is then transferred in the blood stream to all parts of the body. It seemed as if the chemists had only to discover the change which took place in cholesterol on irradiation to understand the secret

of Vitamin D, but the secret still resisted solution. The next great step was made by Rosenheim and Webster of the National Institute of Medical Research, Hamstead, London. They discovered that cholesterol, purified by certain procedures, could not be activated. They also showed for the first time that ergosterol, a contaminant of most samples of cholesterol, was the substance on which the ultraviolet light exerted its effect. Ergosterol appears to be the mother substance of Vitamin D. Ergosterol is a white crystalline substance found in the fat of certain yeasts. Yeast is now the source from which large quantities of ergosterol are being secured. After a brief period of radiation, ergosterol changes from a white crystalline substance to a pale yellowish oily substance. Irradiated ergosterol is extremely potent and possesses 100,000 times the antirachitic activity of the same weight of the strongest cod liver oil. The dose for children is about 1 mgm. per day. The use of accurately standardized irradiated ergosterol has solved some of the difficulties associated with the treatment of rickets. On the other hand, greater care must be exercised in the administration of this potent substance than in the use of less active preparations of Vitamin D. If the proper dose of irradiated ergosterol is used, no harmful effects need be feared. The Council on Pharmacy of the American Medical Association has adopted certain regulations regarding preparations of irradiated ergosterol. Such preparations are known as "Viosterol," and are to be standardized by definite biological procedures.

Experimental rickets in rats is usually brought about by a deficiency of calcium and phosphorus in the diet, though it has been found possible to endure the disease by simple lack of Vitamin D. Since both calcium and phosphorus are abundantly presented in cow's milk, a diet containing a fair amount of milk or its derivatives supplies those minerals adequately; mineral deficiency is not a common cause of human rickets, hence the failure of calcium phosphate medication. The low phosphorus serum content in the human disease must therefore be due to defective absorption from the intestine; and since calcium and phosphorus are closely interdependent in their metabolism, richets and tetany may be conceived as a failure to absorb these elements from the food into the blood stream in normal concentration. From such normal metabolism the organism requires Vitamin D. Dietetically speaking, man had until recently but three main sources of Vitamin D,—milk and its derivatives, eggs, and cod liver oil. It is possible to obtain Vitamin D in another way, —through the skin by the activation of the ergosterol found there, by natural or artificial sunlight, or by direct inunction of the active erogsterol into the skin. As egrosterol is widely distributed in nature, ultraviolet light can also endow many foodstuffs with the protective factor. The summer fall in the incidence of rickets is due to the sun's action either on the cow and her food, and consequently her milk, or directly on the individual. Lack of direct irradiation does something to explain the disease's prevalence in industrial towns, but the dietary factor must be considered of equal importance. Cod liver oil is, as a rule, effective in the treatment and prevention of rickets; and so limited are the sources of Vitamin D under poor living conditions that many consider some cod liver oil essential if town bred children are to be protected with certainty. It is difficult to say how far ergosterol will usefully replace the older medicine, now so widely used. The new drug is rapidly and invariably effective, but is lacking in Vitamin A. The danger of overdosage should be purely temporary.

Vitamin E, the antisterility factor, is fat soluble, heat stabile, and is found in the unsaponifiable fraction of wheat germ oil. Rats receiving a highly purified synthetic diet with the addition of adequate amounts of Vitamins A, B and D will grow normally to maturity, but in both male and female the reproductive power will be diminished. The male will sooner or later show atrophy of the germ cells, while in the female a failure of feotal

development occurs; implication may be normal, but the embryo dies and is reabsorbed. The addition to the diet of very small quantities of certain vegetable oils will prevent sterility, and such oils are said to contain Vitamin E. The production of this disease is a long and difficult laboratory process, and it is unlikely that Vitamin E will prove of clinical importance. However, with direct reference to Vitamin E, the importance of dietary treatment in male sterility should not be overlooked.

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THE ADMINISTRATION OF SUPRARENAL CORTICAL EXTRACTS

The efficacy of replacement therapy in cases of Addison's disease by the injection of suitably prepared extracts of the suprarenal cortex, freed as far as possible from the epinephrine liberated by the medulla of the gland, has apparently been established. For patients that tolerate intramuscular injection well, this is, perhaps, the preferable method of administration. The intravenous method is indicated when the patient is in crisis and an immediate response is necessary. The possibility of effective oral administration has recently been reported on. In cases in which prolonged treatment is demanded, the oral route may be of preferential utility. —Jour. A.M.A., January 2, 1932, p. 52.

CASE REPORTS

TETANUS *

By ARTHUR A. SMITH, M.D.
Clay, W. Va.

I was called February 8, 1932, to see Bessie Cummings, Paxton, W. Va., age 22, white, female, divorced. Occupation, house work. She was the mother of two children, one eight and the other nine years of age.

Father age 60, mother 65, both in good health. Brothers five, living in good health. Sisters two, living in good health. Two sisters dead, one died during child birth and the other with pneumonia.

The parents told me she began to have convulsions January 25 and had had them every day since. Lasting from ten minutes to one and one-half hours. I noticed the right foot was extended and drawn to one side. Right petellar reflex exaggerated. Temperature 100.

The convulsions were spastic in character. Sometimes knees would be drawn up to her chin and at other times head and feet extended, occupying opisthonas position. She had trismus of jaw muscles, it being necessary to keep a piece of wood between the teeth to hold jaws apart as the ends of some of her teeth had already been broken off.

Her mind was clear; in her face you could see an expression of worry, but she would answer questions satisfactorily.

On December 20, 1931, patient's tonsils had been removed in a Wheeling hospital.

Upon questioning family relative to injuries, they stated that she had run a nail in her right foot on January 5, this being twenty days previous to her first convulsion. I was unable to find any pus at sight of injury.

Previous to my call the county health nurse had a blood test made and found it two plus.

The next day, February 9, I gave 10000 units anti-tetanic serum intramuscular and

* Read before the Kanawha Medical Society at Charleston, on April 12, 1932.

10000 intravenously. Requested the parents to take her to the hospital. She had no more convulsions until the next day she had a light attack on the way to the hospital.

February 10 was admitted to the Dr. Lewis Prichard Clinic at 10 A. M., temperature 101. Jaws stiff and unable to talk. At 12 o'clock spinal fluid withdrawn; 10000 units anti-tetanic serum given intraspinal and 20000 units intravenously. Kahn test of spinal fluid showed one plus. At 6 P. M. temperature 102. Patient semi-conscious, suffering with headache.

February 11, temperature 100 at 6 P. M. Patient seemed more rational and resting fairly well.

February 12, temperature normal and feeling generally better.

February 16, patient up and about; given a regular diet and was discharged from the hospital.

After patient returned home she went along all right until February 18, two days after returning from the hospital, and commenced having more convulsions which were broken by using ammonia inhalants. As her general health was improving and there being no involvement of muscles of jaw we did not give any more serum.

She had convulsions every day until March 24. Since then hasn't had any more and is going about attending to her work.

SOCIAL INSURANCE *

By EDWARD H. OCHSNER, M.D.
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We come now to what is probably the weakest spot in the government—the judicial interpretation of the laws and their legal administration. Some of the worst features in the administration of criminal justice in particular, in most of the states and sometimes even in the federal courts, result from countless postponements, hair-splitting technicalities, innumerable appeals, and numerous reversals with its resultant delays and miscarriage of justice. Volumes could be written on this subject alone but one illustration of each method of delaying justice will have to suffice.

A known gunman has been indicted six times in the last eighteen months. Every time he has been released on bonds he has been involved in new crimes. In spite of all this he was given thirty continuances on the first indictment. Commenting on this and many similar cases, Henry Barrett Chamberlain, Operating Director of the Chicago Crime Commission, recently made the following statement:

"Repeated postponements in the trial of a criminal case is the most serious obstacle in obtaining a just verdict."

The following is an illustration of how intense legalism and the glorification of technicalities only too often defeats justice. The case is taken from the decision of the Illinois Supreme Court, Volume 258. This decision was handed down many years ago but it still stands. An eleven-year old girl was dragged into a basement apartment and mistreated by a fifty-year old man. He was found guilty and sentenced to the penitentiary for five years. The Supreme Court reversed the sentence not because of any doubt concerning the defendant's guilt but because the child's first name had been set forth as Rosetta instead of Rosalia in the indictment.

In most major criminal cases in nearly all of the states of the union the convicted person has three and sometimes even more chances of appeal and one or two chances of executive clemency. Each time he has a chance to find a loop-hole and to make his escape while society is denied an equal chance to protect itself.

Our laws have been so emasculated by molly-coddle reformers that it is almost impossible to convict a criminal and keep him convicted or to convict one or a group of men who maladminister government departments. A case in point. Between the years 1915 and 1919, four real estate experts were paid $2,736,868 out of the city treasury. It was common knowledge that the payments were grossly excessive and that a good deal of this money ultimately found its way into the political fund of the administration and yet the Supreme Court reversed the verdict of the Circuit Court which had found the defendants guilty because it claimed that the prosecution had not proven that any member of the administrative body had personally received any of the money. To the laymen the language of the Supreme Court seems to say that if the administrative officer chooses to look in the other direction

* This is the fifth of a series of six articles on Social Insurance by Dr. Ochsner.

when the money is being stolen he can not be held responsible. I do not presume to criticise the courts in these decisions, the fault may be in the laws; but no one will claim that all this spells governmental efficiency, and that is the point under discussion here. In this connection I wish to quote a jurist who was known for his outstanding fearlessness and integrity and his profound knowledge of the law. He characterized the Municipal and Circuit Courts as the Courts of Original Error, the Appellate Courts as the Courts of Intermediate Speculation and the Supreme Court as the Court of Ultimate Conjecture.

While most of these illustrations have naturally been taken from Chicago and Illinois, similar instances in many other places prove that conditions are just as bad. We need but refer to the recent dismissal of five judges for gross inefficiency and corruption in New York City and to an address of Samuel Seabury to the justices of the Appellate division of the Supreme Court of New York in which he said, "It is for you to say whether the magistrates' courts shall be turned into bargain-counters where justice is bought and sold, when political leaders are brokers dealing in influence." In smaller governmental units the corruption and inefficiency is, of course, on a smaller scale but in many instances it is there just the same. One writer in a popular magazine sizes up the whole situation in the following words: "From Teapot Dome to our latest Municipal Court scandals we have seen enough of political and public malfeasance to believe almost anything of our law-makers, courts, and public guardians."

We have devoted this much space to the discussion of governmental inefficiency because it is fundamental. If we have demonstrated that most governments are inefficient or corrupt and that some are both and that there is no likelihood of marked improvement in the immediate future, then we have proven that it would be unwise and unsafe to entrust so vital a function as the almost universal control of medical practice to governmental supervision and control. If one were to record all the evidence of inefficiency and corruption which occur in all the government units of this country in one year alone it would require volumes instead of a few short articles.

(The next two articles will show how the quality of medical services deteriorate under Compulsory Health Insurance.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

WHAT IS NEW IN TUBERCULOSIS

Newspapers thrive because man's appetite for the new in insatiable. Yesterday's happenings taste flat today and are forced off the front page to make way for today's latest gossip. In medicine, news is as eagerly embraced. Not, however, to satisfy a childish desire for the novel but rather because existing knowledge is never complete enough to satisfy. Our fight against tuberculosis is, at best, a compromise because our diagnostic and therapeutic weapons are still inadequate. We need new knowledge to supplement the old. In fact, every doctor owes to his patient the obligation to keep abreast of the times. David A. Stewart, veteran pioneer of the tuberculosis movement in Canada, recently reviewed advances made in tuberculosis, excerpts of which are here presented.

The strategy of our campaign against tuberculosis is new. Our old objective was to heal the sick man who came to the doctor of his own accord because he was sick. He seldom came early because he had few symptoms or none. Our new objective is to find the men, the women, and especially the children who have been in contact with the sick man. Management of the individual case is not enough; we now ask, "Who have been *seeded* by this man's infection, and what can we do for *them?*"

The kinds of people we have to diagnose are new. When the doctor goes scouting among contacts he finds that all his decisions are more difficult. He finds also that "the fountain pen is mightier than the stethoscope" because the history of tuberculosis in the family is so important. Probe deeply with your pen; nor be satisfied until you have all the family chest portraits in your x-ray album. Grandmother's "stomach cough," when the x-ray has passed upon it, may explain the indefinite illnesses of half a dozen grandchildren.

New in Diagnosis.—A revolutionary change in diagnosis is the comparative eclipse of the stethoscope by the x-ray plate. The stethoscope is still useful but not an instrument of precision. It leaves

half of our chest problems untouched. It can but rarely find early tuberculosis and probably never earliest tuberculosis. It can not follow at all accurately the progress of disease or of healing. Nearly all the questions we need to ask are answered more clearly by the x-ray plate. Of course the x-ray plate must be well made and well read lest blind leaders lead the blind into diagnostic ditches.

Opaque oil, such as lipiodol, is a wonderful help in differentiating from tuberculosis a condition which is considered rare but which is really common, namely, bronchiectasis. This new diagnostic measure has had its full share of misuse and misinterpretation.

The bronchoscope is coming more into use as a chest instrument but has still a broad field to cultivate.

Examination of the sputum is as essential as ever. But now we are not satisfied with a single or a dozen negative findings, for that settles nothing. Now we incubate and grow the germs on potato medium.

The tuberculin test is perennially new, and it is more prognostic than diagnostic. A tuberculin reaction in an adult is something like a vaccination scar. When a young child reacts to tuberculin he should be thoroughly examined and closely watched, and his whole household examined, too.

New in Treatment.—"Outdoorness" is not a specific for tuberculosis but a natural advantage which all living people should have, especially the chronically sick. Sunlight treatment is still empirical but useful as a general tonic. He who would use it safely must know its indications and contraindications, its therapeutic, dosage and toxology. Light has been over-praised and abused. It should be applied in measured doses, in well selected cases and always watchfully.

Rest is still the great basis of all treatment of tuberculosis. Fatigue makes ill; rest makes well. Tuberculosis can be cured, but the price to pay are time and patience, and the foundation is rest. But at last pulmonary tuberculosis has found a "specific." It is collapse or compression of the diseased lung or lungs, which is simply a local application of rest. Artificial pneumothorax is not new but the widening of its scope is. Phrenic paralysis to raise the diaphragm and thoracoplasty to collapse the chest wall are new and their scope widens daily. Artificial pneumothorax is being applied earlier and earlier and later and later. Using it in early stages is not using a sledge hammer to drive a tack, because pneumothorax is not a sledge hammer and any definite focus of tuberculosis is not a tack. Pneumothorax has no features that can be called bad, except the formation of fluid in some cases. The best indication is the lack of contraindications and there are no contraindications. Hemorrhages or expectoration with bacilli or beginning cavitation—even a small cavity—urge pneumothorax.

In late, neglected, or advancing disease the prognosis goes up many points when collapse is possible for the worse lung, and is improved even more proportionally when both of two bad lungs can be collapsed. We now freely apply some collapse to both lungs and even put men with double collapse to work. The more passive measures called *taking the cure* must now be supplemented by active measures of *giving the cure*. "Milk, eggs, and the back verandah" never was a reasonable formula and now is hopelessly obsolete.

New About Complications.—We believe now that tuberculosis in the intestine is almost as treatable and curable as tuberculosis in the lung—if we make the diagnosis and apply the treatment soon enough. Early diagnosis of tuberculous enteritis can be made only by the x-ray. The author gives barium meals as a routine in all cases of pulmonary tuberculosis. Treatment is begun early and the old picture is seldom seen except in a patient neglected to sheer hopelessness before treatment is begun. Treatment includes a smooth diet, light therapy, and all general measures made more intensive.

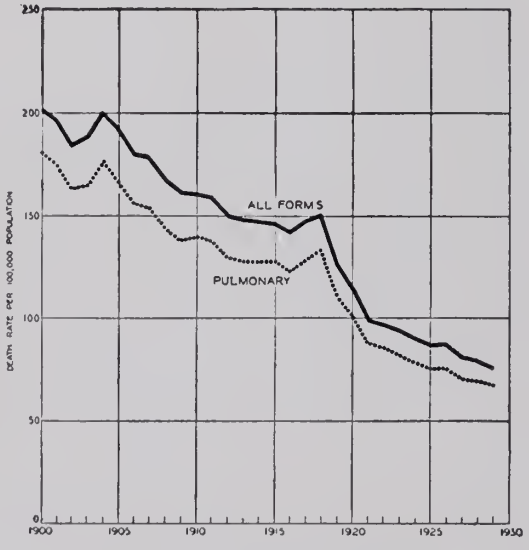
The larynx is the doorstep of the lung. Good treatment for the lung is the best element in treatment of the larynx. Collapse treatment has done much to reduce tuberculosis in the larynx from a major complication almost to a minor one. Add to that rest, silence, and sun applied carefully.

The red terror of hemorrhage is tamed. Half the pharmacopeia has been tried and has failed or done harm. The worst modern mistreatment of hemoptysis is morphine, though a little heroin to *modify* (not stop) cough is valuable. Ice bags on the chest are of the devil. The modern treatment for hemorrhage is rest, reassurance, a little heroin, mild laxatives, bland foods—and the *specific*. That specific is collapse therapy.

New Light on Children.—Most important of all is the new light on tuberculosis in children. Our ideas about children lagged a generation behind our knowledge about adults, chiefly because we had

a single standard for measuring disease in the adult and the child. But the two types are almost two diseases, so different that they have little more than the casual organism in common. Diagnosis, treatment, and prognosis all differ as between the young and the older. Symptoms in the childhood type are absent or slight and no single symptom is pathognomonic. The physical examination can not disclose it. But the great *new light* is shed by the x-ray.

"The discovery of the child in tuberculosis opens up a great new continent for exploration. It is in this new continent of childhood that the most fruitful exploration of the anti-tuberculosis forces will be made during the next generation. * * * What we wish to do for the race must be done for the child. On their behalf we must even learn a good part of our tuberculosis all over again."—*What is New in Tuberculosis,* David A. Stewart, The Canadian Med. Assn. Jour., January, 1932.



TUBERCULOSIS DEATH RARES
U. S. REGISTRATION AREA—1900-1929

OVERSUPPLY OF TRAINED NURSES

Training schools must curtail the steady production of more nurses or the morale of the nursing profession will break down completely. This is the opinion of the Committee on the Grading of Nursing Schools, following an analysis of early returns of the 1930 census on workers.

How serious the oversupply of graduate nurses has become is revealed by the Grading Committee after tabulating figures for eighteen states and the District of Columbia. For this group, since the 1929 census, the total population has increased seven per cent, while the total number of trained nurses has increased seventy-eight per cent.

Although there are still areas of the country and groups of patients not properly nursed, owing to poor distribution and lack of special training, the figures for the forty-two cities studied show that the average nurse has no more than 149 days of employment in any given year, according to the present sickness rate. In Bangor, Maine, she has not more than seventy-seven days of work, and in Ottumwa, Iowa, where employment conditions are best among the cities studied, she can work not more than 201 days in the year. Rates for the other cities range between these two.

States as a whole are somewhat less oversupplied with nurses, although in New Hampshire the nurse can expect no more than 190 days of work in the year, and in Maine, Vermont, Iowa, North Dakota, South Dakota, Kansas, Delaware, Montana, Wyoming, Arizona, Nevada, Idaho and the District of Columbia there is not nearly enough nursing to be divided between the trained and untrained nurses competing for patients.

"If nursing is to avoid disaster," says Dr. May Ayers Burgess in presenting these figures in the March number of the *American Journal of Nursing,* "the steady production of more students, who become graduates, must cease. It must cease not only in the small schools, but in most of the large schools as well. Graduate nurses must be employed. If they are unemployable, they must be reëducated. The schools of nursing have produced them. They are members of the profession. Unless their morale is to break down completely, they must either be elimninated or utilized.

"This is a year of national economic distress. Hospitals are short of funds. How, then, can hospitals take care of their patients with reduced numbers of student nurses, with increased numbers of graduate nurses, and without increasing the annual budget? Let us not assume that there is no solution for this problem. Nurses who are intimately familiar with hospital administration may be able to discover new economies, new methods of organization, which will make reductions in the number of student nurses possible. Unless some solution can be found, which it is within the practical means of the hospital to adopt, nursing will continue to grow in numbers and in distress."—American Nurses Association.

PRESIDENT'S PAGE

WE ARE CONFRONTED next month with a primary election to select candidates for state officers.

It is very encouraging that many of the candidates have voluntarily assured us that they recognize our Association as a vital factor in state affairs. A few medical societies have indorsed local citizens who are candidates. This is an excellent idea and should be done more often. In that way, those men have made a favorable contact before election time. They are, therefore, in a position to familiarize these men with the problems that confront us before they take office. A casual talk by an intelligent physician to a candidate in the calm atmosphere of his home will create more good legislation than all the committees and resolutions sent in during a trying session of the legislature.

Many letters have reached us from physicians demanding or offering suggestions to be put before the various candidates. Some have suggested that we are a much abused and downtrodden profession; others, that our Association should demand certain promises from candidates.

In 1923 and 1925, the medical profession started demanding things and suffered two very disastrous legislative sessions. In 1927, we stopped demanding things and went about getting what we wanted in an intelligent and business-like way. From 1927 to the present time, the legislature of West Virginia has not passed a statute of any kind that has been opposed by the medical profession. On the other hand, the legislature, since 1927, has passed a half dozen measures very favorable to the profession.

The last appropriation for the State Health Department was so inadequate it could not function except for liberal federal assistance.

We have many problems yet to be dealt with in the next legislature, such as the care of our insane patients in state institutions.

We maintain bank examiners, hotel inspectors, weight and scale checkers, inspectors for livestock, and many others. How much more necessary it is to maintain a Medical Board to supervise the care of thousands of patients now confined in state institutions.

These and other questions of interest will come up next year. By making contacts individually, we can accomplish a great good for our profession. Such information should be sent to our very alert Executive Secretary at Charleston for future reference. If he calls upon you during a session of the legislature, by all means go and help him. Your presence for one day may mean the turning point in vital legislation.

Our Association is rapidly building itself into the life of the state. We are enjoying far more prestige, confidence, and good-will than we ever have before. Coöperation such as we are now getting from individual members will in the future carry our influence to undreamed of heights.

Albert H. Hoge

President.

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DOCTORS AND PROHIBITION

The problem of national prohibition, because of its controversial nature, has perhaps received more publicity in the American press than any other public question of the past decade. Heretofore the prohibition question has not been dealt with in the WEST VIRGINIA MEDICAL JOURNAL because it is a public rather than a medical issue. Three recent national developments, however, have brought the practice of medicine and the problem of prohibition in close proximity. When any national issue links itself up with medical practice, we feel that something should be said on the subject in a medical publication.

On April 23, 1932, the *Literary Digest* released its return on the special classified poll on prohibition. The physicians' vote was recorded in this poll. There were 60,229 votes cast by the doctors of America. Of this number, 14,770 voted for continuation of the Eighteenth Amendment and 45,459 voted for repeal. In other words, the doctors who voted in the poll stand a little better than three to one for repeal.

The proportion in West Virginia was just about the same. There were 914 West Virginia doctors who voted; about one-half the number in the state. Of these, 223 voted for continuation and 718 for repeal. This is approximately six per cent higher repeal vote than was cast in the 1930 poll. In no state in the union was there a preponderance of dry votes in the medical profession.

It occurs to the JOURNAL that this heavy repeal vote among doctors might be at least partly due to the present restrictions for prescribing medical liquor. This brings us to the second development; i.e., the recent introduction of a bill in the United States Senate by Senator Copeland to eliminate all federal restrictions on prescription whiskey. This bill is being sponsored by the American Medical Association and has received much public attention. The American Medical Association is not interested in prohibition, but it does feel that no limitations or restrictions should be placed upon the practice of medicine by the federal government. Undoubtedly a great majority of the members of the American Medical Association feel the same way. It is this apparent resentment that perhaps accounts, at least in part, for the result of the medical vote in the *Digest* poll.

The third development was more recent. It was the plan of Claudius H. Huston of Tennessee, former chairman of the Republican National committee, to place the entire regulation of liquor sales in the hands of physicians. Mr. Huston expressed a belief that the physicians of America would "gladly lend their aid to improving present conditions if appealed to from the standpoint of public duty."

Happily, an immediate contradiction of this view came from Dr. W. C. Woodyard, chairman of the A.M.A. bureau of legislation. Dr. Woodyard said that the physicians were not interested in becoming the nation's "bar tenders." Quoting Dr. Woodyard further, "All we ask is the right for the doctor to prescribe the amount of liquor he believes the patient needs at the time he needs it. Doctors not only are not interested in a plan to vest regulation of liquor distribution with them, but they would not want such a duty imposed."

No doubt Mr. Huston's suggestion was made in the best of faith, but we heartily concur with Dr. Woodyard that the prohibition question belongs to the American public and not to the American physician. The doc-

tors have too many public burdens and responsibilities as it is, without shouldering the additional responsibility of regulating the liquor traffic in America.

Summing up, we believe that the medical profession has admirably acquitted itself in the developments of the past three weeks. Regardless of the *Digest* poll, which may or may not be pleasing to our individual readers, the profession has taken a vigorous stand on federal interference with medical practice and has then shown the sincerity of its motive by turning a cold shoulder to the Huston proposal.

LIABILITY INSURANCE RATES

The recent raise in rates on physicians' liability insurance by the Etna company has brought many letters of complaint to the office of the West Virginia State Medical Association. The Etna company carries group policies on most of the county societies in the state. In view of this contact with a large number of the Association members, the Association has had several conferences and considerable correspondence with the insurance company in regard to the increase.

The Journal does not wish to offer any defense for the Etna company, but we do feel that most of our readers will be interested to read a report which they recently submitted to the Association. We publish their statement without further comment.

"There is no question that any increase in the cost of anything is unpopular at the present time, but in the case of physicians' liability insurance it becomes necessary to increase these rates or else cease writing this insurance.

"We have shown up to January 1, 1932, earned premiums of $48,491.63 on the basis of 3,028 doctor units insured, i.e., policies issued with incurred losses of $44,511.29, on a loss ratio of 92 per cent. These figures do not allow anything for agent's commission, home office overhead, taxes, adjustment expense, etc. The usual percentage allowed for these overhead charges above losses shows that the company has paid out approximately $1.42 for every dollar received from the West Virginia doctors.

"The heaviest element of our loss ratio is the expense incident to the defending of claims. The company has felt it advisable to employ the very best legal talent and to follow a policy of defending all claims rather than making any settlement out of court. This is done to discourage the filing of alleged claims for damages which would follow if the company made settlements on these various claims that are filed."

A.M.A. MEETING

The eighty-third annual session of the American Medical Association will be held in New Orleans on May 9-13, 1932. It is difficult to estimate just how many West Virginia doctors expect to attend this meeting, but it is understood that two special cars are being made up at the present time to carry the delegation from this state.

The general scientific assembly of the American Medical Association will open with the general meeting to be held at 8 o'clock P. M. on Tuesday, May 10, and the various sections will meet on Wednesday, Thursday, and Friday, May 11, 12, and 13.

A railroad rate of one and one-half fare has been granted to all members attending the New Orleans meeting. To secure this rate it will be necessary for each member to secure a certificate from the railroad ticket agent when he secures his ticket to New Orleans. These certificates will then be certified and validated at New Orleans and will be honored until May 17.

The Roosevelt Hotel in New Orleans will be the headquarters hotel for the convention. The American Medical Association has advised in their recent bulletin that the Roosevelt is already booked to capacity and that no further reservations may be obtained there.

Other leading hotels in New Orleans, where rooms may be obtained from $2.00 up, are the Bienville, Chalmette, DeSoto, Jung, LaFayette, La Salle, Marberc, Monte-

leone, Pontchartrain, and St. Charles.

All general meetings at New Orleans will be held in the Municipal Auditorium. The meetings of the house of delegates will be held in the Tip Top Inn on the Roosevelt Hotel. Clinical lectures will also be given in the Municipal Auditorium.

The three roads operating train service from this section to the convention city are the Illionis Central, the Louisville and Nashville, and the Southern Railways. The schedule and route of the Illinois Central may be found on page three of the advertising section of this issue of the JOURNAL.

COOPERATIVE CLINIC TOUR

The JOURNAL is pleased to announce a recent drastic reduction in steamship rates for the coming Coöperative Clinic tour of Europe to be held in connection with the hundredth anniversary meeting of the British Medical Association in London. The tour is being sponsored under the collective auspices of the various state medical journals, including the WEST VIRGINIA MEDICAL JOURNAL.

The itinerary for the tour has been completed. The tour group will sail from New York on the Bremen on June 7 and will arrive back in this country on August 3. Among the countries included in the tour are England, France, Germany, Switzerland, Holland, and Austria. The return trip will be made on the Europa. Both the Bremen and Europa are of the North German Lloyd line and are the two largest steamers afloat.

The original cost of the tour, using first class accommodations on the boat, was quoted at $1218. This has been reduced to $1088. Using tourist accommodations the price has been reduced from $892.50 to $844.

In all, there are three tours included in the coöperative tour program of the state journals. The other two also will include the British Medical Association meeting, but these tours are of shorter duration and at less cost.

OBITUARY

DR. E. W. HOWARD

Dr. Edward Winfield Howard, 62 years of age, one of the most prominent physicians of northern West Virginia, died at his home in Fairmont on April 16 following a short illness. The cause of death was angina pectoris.

DR. E. W. HOWARD

Dr. Howard was born at Masontown, Pennsylvania, on October 20, 1870, and received his early education there. In 1894 he graduated from Jefferson Medical College, Philadelphia, and practiced for a year at Point Marion, Pennsylvania. He moved to Fairmont in 1895 where he built up a large practice and established an enviable reputation as a doctor and as a community leader. At the time of his death, Dr. Howard was President of the Fairmont Rotary Club and was a candidate for the Republican nomination for the state senate.

The deceased is survived by his widow and two daughters, all of Fairmont. Five brothers and one sister also survive. Funeral services and interment were conducted in Fairmont on April 19.

In tribute to Dr. Howard, the following letter from the Marion County Medical Society, of which he was a member, is published herewith:

"Dr. Howard's death was a great shock to all of us. He was in charge of the Staff meeting Tuesday night and conducted it with his usual pep. No one even thought that he was sick. The next day he had an attack of angina pectoris and passed away on Saturday, April 16.

"Dr. Howard began to practice medicine in the "horse and buggy" era and was a hard worker, faithful to his patients and ethical in all dealings with his fellow physicians. He had a large obstetrical practice and in some instances had delivered the second generation in the same family.

"He was an outstanding citizen and was extremely popular, radiating cheerfulness everywhere. His pleasant smile and sympathetic understanding lightened many burdens. Although Dr. Howard had more to worry about than most men, no one ever saw him 'blue.' He had an unusual amount of energy and was always very aggressive and enthusiastic in all his activities. He was a leader in the community and was interested in all Fairmont projects. He was influential in the erection of the new Fairmont High School in 1929.

"Dr. Howard was very witty and often in meetings would inject some humorous remark that would cause hearty laughter. He had the happy faculty of being able to say almost anything to people without them taking offense. He was deeply devoted to his family and was very kind to all his relatives.

"The most wonderful tribute to the memory of Dr. Howard was the endless stream of friends that passed his bier. At the time of his death, he was a member of the board of directors of the Cook Hospital, and President of the Rotary Club. He got a great deal out of life and left this world loved and respected."

DR. E. R. HATFIELD

Dr. E. R. Hatfield of Charleston, a member of one of the most widely known families in West Virginia, died suddenly at his home on the morning of April 20, 1932, from heart disease. He was 59 years of age and had been a practicing physician in this state for more than thirty years.

Dr. Hatfield was a son of Anderson Hatfield, better known as "Devil Anse," of Logan County. He graduated from the Hospital College of Medicine at Louisville in 1898 and two years later received his license to practice medicine in West Virginia. For several years he was located on Cabin Creek but moved to Charleston in 1910. He was well known and well liked by the physicians in the southern part of the state, and enjoyed a large practice.

Dr. Hatfield is survived by his widow and three sons and three daughters. One son, Dr. Daniel F. Hatfield, is a practicing physician in Washington, D. C. Three brothers and three sisters also survive. United States Senator Dr. Henry D. Hatfield of Huntington is a cousin to the deceased.

Dr. Hatfield was a member of the Kanawha Medical Society, the West Virginia State Medical Association and the American Medical Association. Funeral services were held from the home and interment was made in the Hatfield family cemetery at Logan.

DR. O. J. MASSY

Dr. O. J. Massey, 32 years of age, an interne at the Wheeling Hospital, was killed on the morning of April 21 when the automobile in which he was riding plunged over an embankment. His home was in Coshocton, Ohio. Dr. Joseph Markley, also an interne at the hospital, and two young ladies were with Dr. Massy at the time of the accident. All three were injured but will recover.

TRUTH SERUM

"Many a state secret," Col. Calvin Goddard humorously adds in *Hygeia,* in the third of a series of articles on how science solves crime, "has been divulged by imprudent gentlemen whose tongues have wagged a bit too much under the influence of alcohol administered to them by solicitous friends with that very end in view!"

The subject writes the correct answers to several questions, seals the envelope and prepares himself for the serum. While under the influence of the drug he then answers the questions orally.

The layman may well ask why under the influence of scopolamine, the patient answers questions but can not tell an untruth. The answer is this: While a subject is narcotized by scopolamine those areas of the brain that he must call to his aid if he wishes to fabricate an untruthful story appear to be in a "high resistance" zone. On the other hand, the paths leading to those areas in which the memories lie stored away are open, and a question is likely to be answered truthfully.

COUNTY SOCIETY NEWS

CENTRAL WEST VIRGINIA

A fine meeting of the Central West Virginia Medical Society was held at the quarterly gathering at Richwood on April 27. After an interesting two-reel moving picture, the scientific program was presented.

The guest essayists were Dr. W. W. Point and Dr. R. H. Walker, both of Charleston. Dr. Point talked on "The Normal Case of Pregnancy and Labor." Dr. Walker presented a paper on "Local Anesthesia in the Treatment of Fractures and Dislocations." Both of these papers were practical and were discussed by the members present.

The program was in charge of Dr. W. E. Echols of Richwood who served as chairman of the local committee..

R. A. McCOSH, Secretary.

FAYETTE COUNTY

An interesting meeting of the Fayette County Medical Society was held at the Presbyterian Church at Fayetteville on the evening of April 12 with a good attendance. Those who presented papers for the scientific program were Dr. H. McGrath, Montgomery; Dr. G. C. Merriam, Sun, and Dr. H. H. Puckett, Fayetteville.

Dr. McGrath's paper was on "Indications for Tonsillectomy." He was followed by Dr. Merriam, with a paper on "Compensation and Insurance Cases." The program was concluded by Dr. Puckett with a paper on "Underweight Children in Fayette County During the Depression." All of these essays were of much interest and were discussed at some length by the members present. Following the program, refreshments were served.

W. P. BITTINGER, Secretary.

MARION COUNTY

Dr. Howard T. Phillips, Wheeling, was the guest speaker at the March 29 meeting of the Marion County Medical Society which was held at 6 o'clock P. M., at the Fairmont Hotel. He gave a very interesting and instructive talk on "Common Skin Diseases," using colored lantern slides for demonstration. During his talk, Dr. Phillips examined sixteen patients, making the diagnosis of the skin condition and outlining the course of treatment he would recommend.

The most interesting case was that of a man with an extensive lesion of the face which he diagnosed as a manifestation of tertiary syphilis in spite of the fact that the blood Wassermann test was negative. The meeting was very well attended and everybody enjoyed Dr. Phillips' paper. Preceding the scientific session, a roast duck dinner was served by the hotel.

A symposium on the treatment of circulatory failure featured the April 26 meeting of the society, also held at the Fairmont Hotel and preceded by a fine dinner. The symposium was presented by Drs. C. W. Waddell, A. H. Stevens, L. C. Davis, and J. W. Schoolnic.

A motion picture of interest on "Cancer Cells" was also shown at this meeting after the scientific program.

CHARLES T. FRANCIS, Secretary.

OHIO COUNTY

A series of three excellent meetings have recently been held by the Ohio County Medical Society in the Solarium of the Ohio Valley General Hospital. Dr. Max Minor Peet of Ann Arbor, Michigan, was the essayist at the March 25 meeting with a paper on "The Application of Our Present Knowledge of the Sympathetic Nervous System." This was discussed by Drs. L. A. Lyon, R. U. Drinkard, H. F. Nolte, and J. O. Rankin.

Two meetings were held in April. Dr. Theodore Diller of Pittsburgh was the essayist at the April 1 meeting, his subject being, "Human Credulity as Illustrated by Consideration of Witchcraft." This most interesting paper was discussed by Drs. J. Schwinn, C. A. Wingerter, A. L. Osterman, and R. M. McMillen.

On April 15 Dr. L. F. Milliken of the University of Pennsylvania, Philadelphia, presented a most interesting paper on "Renal Infections." Discussion on this paper was opened by Dr. A. L. Jones, Dr. R. D. Gill, Dr. W. C. McCuskey, and Dr. L. N. Harris.

H. C. HARPFER, Secretary.

CABELL COUNTY

Mr. John Meek and Dr. W. W. Strange were the essayists at the March 24 meeting of the Cabell County Medical Society which was held at the Pritchard Hotel. Mr. Meek read a paper on "Some Legal Aspects of Medicine," and Dr. Strange read a paper on "The Fiftieth Anniversary of the Discovery of the Tubercle Bacillus."

Dr. Walter N. Rowley was the scientific essayist at the April 14 meeting of the society. His subject was "Surgical Treatment of Gonorrhea in the Female." A number of important business matters were also disposed of at this meeting.

W. W. STRANGE, Secretary.

BARBOUR-RANDOLPH-TUCKER

The regular quarterly meeting of the Barbour-Randolph-Tucker County Medical Society was held at the Elkins Y. M. C. A., on Friday, March 4, 1932, at 7:30 o'clock P. M. The scientific program consisted of a paper on "Earache," by Dr. Russell Wolfe, which was discussed by many of the members present. Due to the unavoidable absence of Dr. C. H. Hall, the paper on "Scarlet Fever" was not read.

The following new members were unanimously elected to membership: Dr. F. S. Holsberry, Parsons, and Dr. A. P. Butt, Jr., of Elkins.

Dr. B. L. Golden was elected delegate to the state medical meeting at Parkersburg next June and Dr. W. E. Whiteside was elected as alternate.

W. M. JUNKIN, Secretary.

LEWIS COUNTY

New officers for 1932 of the Lewis County Medical Society are Dr. Cecil Denham, Weston, president; Dr. E. R. Cooper, Troy, vice-president; Dr. H. M. Andrew, Weston, secretary-treasurer, and Drs. D. P. Kessler, E. T. W. Hall, and E. R. McIntosh, all of Weston, as censors.

Dr. C. B. Rohr and Dr. H. M. Andrews, Weston, were elected as delegates to the state meeting in Parkersburg. Dr. E. R. Cooper and Dr. George Snyder were elected as alternates.

H. M. ANDREW, Secretary.

MERCER COUNTY

The regular monthly meeting of the Mercer County Medical Society was held on April 19 at Matoaka, at 6:30 P. M. We had a very enjoyable meeting at the Kiwanis Club, and after an entertaining program the regular medical program was presented. There were fifteen members and six visitors present.

A most interesting paper on "The Management of Coronary Thrombosis and Its Complications" was read by Dr. Blanton P. Seward of the Lewis-Gale Hospital, Roanoke, Virginia. Dr. J. T. McKinley of Roanoke showed several x-ray pictures of the heart, illustrating Dr. Seward's talk, and also many other pathological changes in the chest. He then read a paper on X-ray Therapy. Both of these papers were very good and well presented. They were discussed freely.

It was announced one of our members, Dr. B. S. Clements, is a Democratic candidate for the House of Delegates. The medical profession was urged to support Dr. Clements.

R. R. STUART, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular April meeting at the Hatfield-Lawson Hospital on Wednesday evening, April 20, with twenty members and visitors present. The following delegates were elected to represent the Society at the meeting of the West Virginia State Medical Association at Parkersburg in June: Dr. S. B. Lawson, Dr. B. D. Smith, and the Secretary, in accordance with the state constitution and by-laws. Alternate delegates were elected as follows: Dr. R. W. Roberts and Dr. C. A. Martin.

Following the transaction of other routine business a scientific program was rendered. Dr. Ray M. Bobbitt of Huntington addressed the society on "The Diagnosis and Management of Some Different Types of Urinary Calculi"; and Dr. Francis A. Scott of Huntington addressed the Society on "Osteomyelitis." These papers were interesting and instructive to all present.

FRED E. BRAMMER, Secretary.

KANAWHA COUNTY

The regular monthly meeting of the Kanawha Medical Society was held at the Public Library building, Charleston, on the evening of April 12 with an attendance of approximately sixty members. A most interesting scientific program was presented by Dr. A. A. Smith, Clay; Dr. John E. Cannaday, Charleston; Dr. Douglas Roller, Jr., Charleston; and Dr. Archer A. Wilson, Charleston.

Dr. Smith reported an interesting case of tetanus which he had recently treated and cured. This report is being published in the state JOURNAL.

Dr. Cannaday addressed the society on the subject, "Delayed Drainage of Deep Abdominal Abscesses." His paper was discussed by Dr. S. L. Bivens, Dr. J. Ross Hunter, and Dr. E. B. Henson.

Dr. Roller made a short address in memory of the fiftieth anniversary of Dr. Koch's discovery of the tubercle bacillus.

Dr. Wilson addressed the society on the subject, "The Management of Acute Head Injuries." His paper was discussed by Dr. R. M. Dodson, Dr. R. H. Walker, Dr. McClure, and Dr. H. C. Kincaid.

Plans for the annual spelling match of medical terms were made at this meeting. The two team captains elected were Dr. G. C. Schoolfield and Dr. R. H. Dunn. The spelling match will be conducted at the next meeting on May 10.

The election of delegates to the state meeting at Parkersburg in June was held. The delegates will be Drs. G. H. Barksdale, J. R. Hunter, O. H. Bobbitt, H. C. Thompson, F. A. Clark, G. G. Irwin, and M. F. Petersen. Alternates will be Drs. H. H. Howell, R. A. Ireland, J. P. Lilly, R. D. Roller, M. F. Raine, and A. E. Amick.

M. F. PETERSEN, Secretary.

MONONGALIA COUNTY

An interesting meeting of the Monongalia County Medical Society was held in the Junior High School library, Morgantown, on the evening of April 5, with a good attendance. The guest speaker of the evening was Dr. William R. Goff, Parkersburg, who presented a highly interesting and instructive essay on "The Diagnosis and Treatment of Hyperthyroidism and Hypothyroidism."

G. R. MAXWELL, Secretary.

McDOWELL COUNTY

Dr. H. T. Schiefelbein of Welch, a member of the McDowell County Medical Society, was the guest speaker at the April 22 meeting of the Wyoming County Medical Society at Mullens. His paper was on the subject, "The Value of Ophthalmoscopic Examination in the General Practice of Medicine."

Dr. A. G. Rutherford, superintendent of the Welch Emergency Hospital, has recently returned home after spending two weeks at the Mayo Clinic, Rochester, Minnesota, attending the clinics. Dr. Rutherford is candidate for the Republican nomination for the State Senate.

WYOMING COUNTY

A most interesting meeting of the Wyoming County Medical Society was held at Mullens on the evening of April 22 with a fine attendance. Preceding the scientific program, a dinner was served to the members present at the Southern Methodist Church.

A case report on "Double Uteri, Briefly, Embryology, and Clinical Manifestations in Morbid Conditions," was presented by Dr. Ward Wylie and Dr. T. W. Heironamus. The guest speaker was Dr. H. T. Schiefelbein of Welch, who presented a paper on "The Value of Ophthalmoscopic Examination in the General Practice of Medicine."

WARD WYLIE, Secretary.

MAKE SANITATION MODERN

Complaints that are merely a matter of neighborly conduct which the police could better investigate are brought to the attention of the health department of some cities until personal grievances, rather than the rudimentary problems of municipal health, are given the center of attention.

Compare, if you can, Dr. W. W. Bauer writes in *Hygeia*, the importance of the question of black smoke issuing from a neighbor's chimney with that of the food and water supply needed by the city. Mr. Citizen, in demanding return for his taxes, ought to demand twentieth century and not fourteenth century service, Dr. Bauer concludes in "Sanitation Goes Modern."

BOOK REVIEW

OBSTETRIC EDUCATION

This new volume, *Obstetric Education,* is another of the valuable publications from the recent White House Conference on Child Health and Production. The book was released on March 25 by the Century Company, New York, and retails at $3.00 per copy.

The findings of the subcommittee on Obstetric Teaching and Education of the Committee on Prenatal Care are discussed in this volume, and recommendations are offered to improve obstetric practice and to lower the present high maternity death-rate in the United States. Conscious that the high maternal mortality rate is a reflection on the training and education of those who are charged with furnishing maternity care, the subcommittee made an appraisal of: the training of physicians for obstetric practice, including undergraduate training and subsequent or graduate education, the obstetric education of nurses and nursing attendants; the history, status abroad and status in this country, education, and training of mid-wives; and the obstetric education of the laity and of social workers.

The subcommittee advocates more adequate professional training and points out the necessity of securing the recognition and support of the laity without which no comprehensive plan for maternal care will function properly.

For the purpose of this study, the subcommittee on Obstetric Teaching and Education formed itself into various subdivisions under the chairmanship of Fred Lyman Adair, M.D. The undergraduate education of physicians was studied under the chairmanship of Palmer Findley, M.D.; graduate education of physicians, Rudolph W. Holmes, M.D., Chairman; obstetric education of nurses and nursing attendants, George W. Kosmak, M.D., Chairman; obstetric education of midwives, James Robert McCord, M.D., Chairman; obstetric education of the laity and social workers, Robert L. DeNormandie, M.D., Chairman.

NUTRITION SERVICE IN THE FIELD

Nutrition Service in the Field presents the findings and recommendations of two subcommittees of the Committee on Medical Care for Children of the White House Conference on Child Health and Protection. It was released by the Century Company, New York, on April 1, and retails at $2.00 per copy.

The first part of the book is devoted to the report of the Subcommittee on Nutrition. This report is a study of nutrition work, a relatively new activity in the general program for child health and protection. It explains what has so far been accomplished, reveals the need for nutrition education, makes definite recommendations for raising services to the required standard, and describes the work of outstanding nutrition services for children in different parts of the country.

The second part of the book is devoted to the report of the Subcommittee on Child Health Centers. This report includes a review of an extensive survey of child health centers, a list of health centers in the United States and its possessions, an account of the nature and scope of the work of these centers, and the recommendations of the subcommittee for improving and extending this important part of child welfare work.

MEDICINE AS A CAREER

An estimate of *Medicine as a Career,* by Dr. William Allen Pusey, dermatologist, will be issued again when Doubleday Doran republishes "An Outline of Careers," a practical guide to achievement, edited by Edward L. Bernays, the distinguished public relations counsel, who also contributes the chapter on public relations.

This symposium, bringing a fresh attitude for young men faced with mapping out their careers, is opportune, according to Mr. Bernays, because it comes at a time when general business conditions have tended to deaden ambition. Such a survey of the possibilities in the various vocations, it is felt, will provide an impetus to the enthusiasm of these young men which may help them in recapturing a normal approach to work, achievement and possible success.

Dr. Pusey has been engaged in practice since 1889. He was Professor of Dermatology at the College of Physicians and Surgeons at the University of Illinois from 1894-1915 and has been professor emeritus since 1915. From 1917-18 he was chairman of the Committee on Venereal Diseases of the U. S. Surgeon-General's Office. He is a member of the American Medical Association, serving as president from 1924-25; a member of

the American Dermathologists Association, serving as president in 1910; a member of the Chicago Dermatologists Society, serving as president from 1905-06 and 1917-18; a member of the Chicago Medical Society, serving as president from 1918-19.

In his chapter on Medicine in this book he states: "The purely scientific side of medicine—investigation, research, discovery—is a field in which genius can find all the intellectual and other satisfaction that even it can hope for. The problems are as intricate as any that concern men. The rare man who is suited to a life devoted to them need have no fear of ever reaching the point where he has no more interesting problems to occupy him. The solutions of these problems offer rewards in service to mankind that are among the greatest that altruism can wish."

Other chapters in the book were written by: A. C. Ernst, of Ernst & Ernst, on Accountancy; Stanley Resor, president of the J. Walter Thompson Company, on Advertising; Nelson A. Crawford, former director of information, United States Department of Agriculture, now editor-in-chief, *Household Magazine,* on Agriculture; Reeve Schley, vice-president of the Chase National Bank of New York, on Banking; Joseph H. Schaffner, of Hart Schaffner & Marx, on Clothing and Allied Industries; John Hays Hammond, on Engineering; the late of Edson White, formerly president of Armour & Company, on Foodstuffs; Roy W. Howard, chairman of the board, Scripps-Howard Newspapers, on Journalism; Jesse L. Lasky, vice-president of Paramount Publix Corporation, on Motion Pictures; Edward L. Bernays, public relations counsel, on Public Relations; R. R. Deupree, president of the Procter & Gamble Company, on Salesmanship; the late C. H. Markham, formerly president of the Illinois Central Railroad, on Transportation.

WHAT CAUSES CORNS?

The common occurrence of corns on the feet indicates that something is wrong with our present day shoes. Most persons who are bothered with corns complain of those appearing on the small toe, although they are liable to appear on any part of a toe and on any or all toes.. The reason for this is that there is not wood enough in the last of the shoe at this point. A broad toe last is always more comfortable, J. H. Finn maintains in *Hygeia.*

HOSPITAL NEWS

THE PAST YEAR'S WORK *

Once more the West Virginia State Hospital Association convenes. The representatives here gathered seek a better understanding of hospital affairs: a more practical and economical method of administration: a more common working ground; and a more coöperative method in establishing an understanding with the public.

During the past year the association has been active. One important law has been passed. While it may not meet the desires of all, at least it is a wedge towards future and helpful legislation. Everything must have a beginning. A bulletin has been initiated. While small at first, with proper support it should become a very valuable asset for the organization. Therefore, what part it plays in the future is in direct proportion to how well you support it, and how sincere you are in making it a worth while project.

We regret the failure of the sectional meetings. It is possible that your president was a little too ambitious. But I believe we should have such meetings if for no other reason than to bring each a little closer to his fellow worker.

To me the most outstanding accomplishment was the economic survey. It is to be regretted that all hospitals did not answer this survey. There seems to be a feeling among some that anything attempted has behind it a personal motive. However, about sixty per cent not only answered the questionnaire but signed it. It was this sixty per cent who showed a spirit which made us feel it worth while to carry on. The program for raising the standard of nursing was not carried to completion. First, it is a big undertaking and will require a great deal of work, over a period of time. The chairman of this committee has been very active in correlating material. But the loss of Dr. Harry Hall, a most outstanding advocate, and the inability of the committee to get together has delayed this work. I hope the incoming president will complete it.

All in all, I am very happy over our progress. I believe we have thrown off our child's clothes, awakened from our lethargy, and are now ready to proceed and accomplish that which is in our power.

* Address delivered by Benjamin I. Golden, M.D., F.A.C.S., President, at the annual meeting of the Hospital Association of West Virginia at Huntington on September 19, 1931.

COST OF NURSING SCHOOLS

A nursing school is the source of considerable financial profit to most hospitals. To give up their training schools would mean the yearly loss of fairly large sums of money. So declare eighty-two per cent of 208 hospitals the nursing schools of which have taken part in the cost study of the Committee on the Grading of Nursing Schools. Only eighteen per cent believe that they would save money by giving up the schools and substituting graduate nursing care for their patients.

This first cost study of the Grading Committee rather than producing authoritative results shows the need of further study, Dr. May Ayres Burgess, director of the committee, declares in presenting the results in the April number of the *American Journal of Nursing*. She believes, however, that further studies will not change greatly the relative proportions of schools that would lose or gain by discontinuing their schools, although the actual amounts of money involved might change considerably.

One fourth of the schools reported either that they would save money by giving up the schools or would lose less than $2,500. Another fourth estimated that discontinuance of their training schools would bring an annual loss of $23,350 or more. The middle group estimated that it would lose $10,500 yearly by such a move.

Although it has an average of fifty-five patients, one hospital estimated that by closing its nursing school it would save $209 a patient each year. At the other extreme was the estimate of a hospital that it would lose $525 per paitent per year were its school given up.

To place hospitals with large schools and with small schools on the same basis for comparison, the hospital was asked how it would replace every ten students.. Replacement figures received showed wide variation in the number of graduate nurses and maids thought necessary to supplant the students.

Findings of the Grading Committee challenge the results of the study of nursing education in Canada made by Dr. G. N. Weir. Dr. Weir's figures seemed to show that nearly all hospitals would save money by giving up their training schools.

Several of the largest and most respected nursing schools in the United States made cost studies for the Grading Committee. Their studies were made with great care and in some cases accounting experts were called in from the outside. Yet in every case the larger hospitals report that they would lose a very large sum by giving up their schools.

PUBLIC HEALTH

TUBERCULOSIS DEATH RATE LOW

Death from tuberculosis reached a new low mark in West Virginia in 1931, the death rate being 58.8 for every 100,000 population as against 82.6 in 1924. Comparing these figures with the rate for the United States in 1904, which was 201 per 100,000, even greater strides are noted resulting in the saving of nearly 200,000 lives annually.

However, tuberculosis still continues to be the greatest cause of deaths during the most productive years of life from twenty to fifty, it was said by Dr. W. T. Henshaw, state health commissioner. In West Virginia over fifty-six per cent of the deaths last year from this disease occurred in this age group. Dr. Henshaw stated that this often results from one of two causes, either old infections "lighting up" under the strain of modern living or because organs weakened by some infection in childhood easily become the seat of tubercular infections. Deaths in this age group cause a great economic waste which could be prevented as tuberculosis is now recognized as a curable disease in at least ninety-six per cent of the cases when it is discovered and treated in the early stages.

An analysis of the figures compiled by the division of vital statistics of the State Health Department show that all ages are affected by tuberculosis. In 1931 there were thirty-four deaths of children under five years of age from this cause, twenty-two deaths in children from five to nine and 103 in young persons from ten to nineteen. In young children tuberculosis usually affects the glands, bones and membranes of the spinal column. Frequently the source of infection is to be found in milk, making the tuberculosis testing of cattle of great importance.

Records at the State Health Department show that many physicians fail to report cases of tuberculosis, the most accurate figures being those secured from the death certificates. This allows many contact cases to develop. Conservative figures claim seven active cases of tuberculosis to every death. During the past five years there have been 5,787 deaths from this disease reported to the State Health Department and but 3,170 cases. Figuring on the above rate there have been at least

40,509 cases in the state during this period. If each case were diagnosed in its early stages and the source of infections found many contact infection could be avoided, authorities state.. This is part of the state-wide program now being carried out.

The records also show a difference in susceptibility in the sexes, the death rate among females being greater up to twenty-five years, after which the female death rate drops and the male goes up. Various causes for the higher female death rate are given, including malnutrition and lack of out-door exercise. The rise in the male death rate after twenty-five is attributed to occupational hazards. This is particularly true in occupations of a dusty nature, where the tuberculosis incident is very high. Coal miners are an exception, however, there being less tuberculosis among them than workers in general.

Tuberculosis claims a high toll each year in the negro race. Last year the figures show their death rate increased while the white declined, giving the negroes a death rate of 118.35 per 1,000 negro deaths and the whites a rate of 53.06 per 1,000 white deaths.

Since the discovery in 1882 by Dr. Robert Koch that the tuberculosis germ is transmitted from one person to another, great strides have been made to check the spread of this disease by locating the source of infection of each case. Prior to that it was thought tuberculosis was hereditary. The Early Diagnosis Campaign, a nation-wide movement sponsored by the National Tuberculosis Association during the month of April, has chosen as its slogan this year, "Tuberculosis Causes Tuberculosis, every case comes from another." Every organization interested in health is being asked to help with the campaign, the purpose of which is to have all suspicious cases diagnosed and where necessary placed under treatment. Another important part of the campaign is the education of the public as to the necessity of an annual physical examination. Such examinations reveal any infections and are of great importance in view of the fact that two out of every one hundred persons develop tuberculosis at some time during their life time. Danger signals include loss of weight, readiness to fatigue, persistent indigestion and a cough that hangs on. These should be given attention and a physician consulted. Special clinics for the free examination of persons will be conducted in various sections of the state during April.

DRUG ADDICTION

A report of interest dealing with a relatively new activity of the Public Health Service has recently been submitted to Congress by Surgeon General H. S. Cummings. This report indicates that during the past fiscal year studies have been continued on the nature of drug addiction and the best methods of treatment and rehabilitation of persons addicted to the use of habit-forming drugs; information has been disseminated on researches in this particular field; state and local jurisdictions have been coöperating with the view to their providing facilities for the care and treatment of narcotic drug addicts, while other agencies, both governmental and voluntary, have coöperated with a view to better coördination of effort in these particular functions.

Studies have been conducted dealing with the subject to supply the normal and emergency medicinal and scientific requirements of the United States.

The site for the first narcotic farm, near Lexington, Kentucky, was acquired during the year and plans were begun for the development of the necessary buildings to accommodate 1,000 inmates. A site for the second narcotic farm, near Fort Worth, Texas, was selected by the three cabinet officers charged in law with this responsibility.

A significant change affecting the individual federal prisoner occurred during the fiscal year ended June 30, 1931. Under the act approved May 13, 1930, the Service inaugurated a system for supervising and furnishing medical and psychiatric services for federal prisons. This new function involved the employment of additional medical and technical personnel.

After preparing regulations governing the relationship to be maintained between the two departments (Treasury Department and the Department of Justice), the work of furnishing medical service in the federal prisons was inaugurated by the Public Health Service, beginning July 1, 1930. As rapidly as facilities would permit, the medical service in the various penal and correctional institutions maintained by the federal government was taken over by the Public Health Service. Thus far, in the conduct of this important adjunct to the rehabilitation of federal prisoners, the Public Health Service has been concerned almost wholly with the administrative problems involved. Future investigations and research studies have been planned, however, using the clinical material available in these institutions.

GENERAL NEWS

THE PARKERSBURG MEETING

The scientific program and practically all plans in regard to the sixty-fifth annual meeting of the West Virginia State Medical Association at Parkersburg have been completed, with every indication that the coming meeting will be the largest in the history of the Association. The date is June 21-23, 1932.

While the general scientific program will not open until the morning of June 21, the council and the house of delegates will meet on the afternoon and evening of the preceding day, June 20. The annual convention golf tournament will also be held on Monday, June 20, at the Parkersburg Country Club.

The scientific program will not be released in full until the June issue of the JOURNAL. However, the program arrangement and the names of the speakers are now available. The general meeting on the morning of June 21 will be held in the ball room of the Chancellor Hotel and will be called to order by President Dr. Hoge promptly at 10 o'clock.

The morning essayist will be Dr. F. Churchill Hodges of Huntington, and Dr. Mont Reid, Cincinnati. The essayists for the afternoon session will be Dr. W. W. Point, Charleston, Dr. W. V. Wilkerson, Montgomery, Dr. B. B. Nicholson, Parkersburg, and the Oration on Medicine by Dr. R. J. Condry, Elkins. The annual President's Address will be delivered at a public meeting that evening, also in the Chancellor ball room.

The essayists for the second day of the convention, Wednesday, June 22, will be Dr. B. H. Nichols, Cleveland; Dr. W. M. Sheppe, Wheeling; Dr. A. K. Hoge, Wheeling; Dr. Hugh S. Cumming, Surgeon General of the U. S. Public Health Service; Dr. A. Graeme Mitchell, Cincinnati; Dr. E. B. Freeman, Baltimore; Dr. Samuel Goodwin Gant, New York City, and the Oration on Surgery by Dr. J. E. Blaydes, Bluefield.

Dr. Gant will also be the guest speaker at the convention banquet on the evening of June 22 at the Chancellor. His address, which will be non-scientific, and the presentation of the golf trophies and the President's charm, will conclude the banquet program. Immediately following the banquet the annual convention dance will be held on one of the large Ohio river steamers from 9 until 1 o'clock.

The four sectional meetings will convene at 9 o'clock on Thursday morning, June 23, and each section will remain in session until their respective to present plans.

programs are completed. All of the sectional meetings will be held at the Chancellor Hotel, according

Essayists before the section on surgery will be Dr. Henry H. Kessler, Newark; Dr. Dean Lewis, Baltimore; Dr. E. B. Wright, Clarksburg, and Dr. William Carl Kappes, Huntington.

Essayists before the eye, ear, nose, and throat section will be Dr. Waitman F. Zinn, Baltimore; Dr. M. L. Dillon, Charleston; Dr. B. W. Fishback, Cincinnati and, Dr. C. E. Park, Parkersburg.

Esssayists before the section on pediatrics will be Dr. Robert C. Hood, Clarksburg; Dr. W. Byrd Hunter, Huntington; Dr. R. H. Paden, Charleston, and Dr. J. T. Thornton, Wheeling.

Essayists before the section on internal medicine will be Dr. Oscar B. Biern, Huntington; Dr. J. A. Bargen, Rochester, Minnesota, and Dr. W. T. McClure, Wheeling.

The annual golf tournament is in charge of a special local committee in Parkersburg, headed by Dr. M. O. Fisher and Dr. Rolla Camden. In order to keep the tournament from interfering with the scientific program, it will be held on Monday, June 20, and concluded on the same day. A silver cup will be awarded the winner and there will be other prizes to be awarded at the convention banquet. All doctors who expect to enter the golf tournament are urged to get in touch with either Dr. Fisher or Dr. Camden at least a week in advance.

The general chairman of the various convention committees at Parkersburg is Dr. George D. Jeffers. Sub-committee chairmen include Dr. O. D. Barker of the Banquet and Dance Committee, Dr. B. O. Robinson of the Reception and Welcome Committee, and Dr. R. H. Wharton of the Parking and Decorating Committee. Dr. R. H. Boice, President, and Dr. John T. Goff, Secretary of the Parkersburg Academy of Medicine, are working with the various committees and it is understood that the local plans are practically completed at the present time.

Many important business and legislative matters are expected to come before the meeting of the council and house of delegates on the afternoon and evening of June 20. All officers and delegates are

urged to be on hand for the latter meeting which will be held at the Chancellor Hotel at 8 o'clock, P. M. The council meeting will also be held at the Chancellor and will be called to order at 3 o'clock, P. M.

The annual election of officers will be held at the second meeting of the house of delegates, which will be called to order immediately following the President's address on the evening of June 21.

All general sessions and all sectional and business meetings will be held at the Chancellor Hotel unless otherwise announced. The meeting rooms are on the second floor of the hotel, where the registration booth and the commercial exhibits will also be located. The Chancellor will be the official headquarters hotel for the convention.

In addition to the Chancellor, there are three other comfortable hotels in Parkersburg that are anxious to serve the visiting doctors. These are the Stratford, the Monroe, and the Blennerhassett. The Chancellor rates will be from $2 up for single rooms and from $3.50 up for double rooms. The rates at the other three hotels range from $1.50 up. The complete rates and facilities of the Parkersburg Hotel will be published in the Convention Number of the JOURNAL next month.

HEALTH INSURANCE

The following editorial from the *Chicago Dental Societies Bulletin* will no doubt be of considerable interest to the members of the medical profession, as it concerns a resolution to be presented at the New Orleans meeting of the American Medical Association this month. We quote from the *Dental Bulletin:*

At the annual meeting of the American Medical Association in New Orleans in May a significant resolution is to be presented to the House of Delegates which indirectly pays a compliment to the American Dental Association and the Committee on the Study of Dental Practice. The resolution calls upon the Board of Trustees of the American Medical Association to immediately institute a survey on health insurance and sick benefits and their effect on medical practice.

The committee on the Study of Dental Practice has been working for several years in order to make available scientific, accurate data on certain phases of dental practice and the relationship of the profession to society. Some opposition was apparent because the committee accepted funds from the American College of Dentists to finance a study of health insurance in Europe, a study which appeared important but for which no funds were available from the American Dental Association.

The importance of this study may take on added significance since this resolution to be presented at the American Medical Association meeting calls attention of the delegates to the fact that the American Dental Association has, through its own representatives, made a study of health insurance systems in Europe and their effect on practice; while the only data available to the physician comes from outside sources and may often be biased.

The publication by the Committee on the Study of Dental Practice entitled "The Way of Health Insurance" is now being prepared by the University of Chicago Press and will be available for distribution early in April. This is a report of the study financed by the American College of Dentists, and contains basic information on health insurance for both the medical and dental professions. Possibly our medical confreres will find much in this publication which will be of value to them, and materially reduce the labor of making their own survey. It is even possible that "The Way of Health Insurance" will contain all the information necessary for the formulation of a policy and a plan to meet the insurance issue.

The dental profession may feel a measure of pride in the fact that among our number are men with sufficient wisdom and foresight to have such a survey completed and the report already published at the time when a resolution calls upon the American Medical Association to make a survey *immediately*. The Committee on the Study of Dental Practice is to be complimented on its service to the profession.

The resolution to be presented at New Orleans, reprinted from the *American Medical Association Bulletin*, is as follows:

WHEREAS, The present unrest is bringing forth an increasing discussion and demand for some form of federal dole for relief of the indigent, and

WHEREAS, There is increasing agitation and solicitation that Federal and State Government provide a system of medical care for the people in some form or other similar to the British and French enactments, and

WHEREAS, Our only informative data emanate from outside organization or individuals often biased or socialistically inclined, and

WHEREAS, The American Dental Association has through its own representatives investigated and compiled information and facts regarding the effects and results of doles and the British Panel System upon the practice of dentistry, therefore

Be It Resolved, That the delegates of the Michigan State Medical Society to the American Medical Association be and are hereby instructed to introduce the following resolution in the House of Delegates of the American Medical Association and to use their best efforts to secure its adoption:

Be It Resolved, That the Board of Trustees of the American Medical Association be requested to immediately institute a survey and compile facts upon the effect of doles and federal health and sick benefit appropriations and administrations upon the practice of medicine in England and France and to compile a summary upon the effect such systems would have upon medical practice and scientific progress in the United States, and

Be It Resolved, That this information be made available to state medical societies.

THERMOMETER REVISION

On February 24, 1932, the Bureau of Standards of the U. S. Department of Commerce, Washington, recommended revision of the commercial standard for clinical thermometers. At that time the revision was circulated for written acceptance. Subsequently acceptances were received representing a satisfactory percentage of production.

In view of the acceptances, the Bureau of Standards has just announced the revision of the commercial standard, to be known as CS1-32, to become effective on June 1, 1932. The report of the Bureau in part reads as follows:

"Since the effectiveness of any voluntary method of quality control is in direct proportion to the observance it receives, hospitals and other purchasers are in a position to influence materially the benefits to be derived from the establishment of this standard by insisting upon conformance to its requirements when purchasing clinical thermometers.

"Those who were active in drafting this specification believe that although it is not an excessively high standard, in that manufacturers should experience no great hardship in meeting its requirements, it does insure thermometers that meet the ordinary demands of accuracy and reliability. Furthermore, they believe that thermometers which fail to pass the required tests are inferior and unsuitable for clinical use.

"It is expected, therefore, that producers, distributors, and users will follow this standard insofar as circumstances will permit, and that they will report any noteworthy experience to the U. S. Bureau of Standards at Washington."

GOLFING DOCTORS

Members of the profession who are golf addicts, or even mildly interested in the sport, will have an opportunity to participate in two medical tournaments in May and June; first, at the American Medical Association meeting in New Orleans and, second, at the Parkersburg meeting of the West Virginia State Medical Association next June.

The American Medical Golfing Association will hold its eighteenth annual tournament in New Orleans on Monday, May 9, 1932. The 36-hole match will be played over the beautiful New Orleans Country Club course, followed in the evening by the golfers' banquet and distribution of prizes. Approximately fifty trophies and prizes will be distributed to winners in the various events.

The membership of the A. M. G. A. now totals 850 physicians, representing every state in the union. It is anticipated that 150 medical golfers will be attracted to New Orleans for this year's tournament.

Fixed competition for thirty-six holes includes low gross, low net, choice score handicap, and kicker's handicap. Eighteen-hole events include low gross, low net, maturity (limited to fellows over sixty years of age), and the "old guard," (limited to competition of past presidents).

The West Virginia State Medical Association tournament will be played over the excellent 18-hole course of the Parkersburg Country Club on Monday, June 20, and prizes will be awarded at the convention banquet on Wednesday evening, June 22. Dr. M. O. Fisher and Dr. Rolla Camden of Parkersburg are in charge of the local committee handling the tournament.

There will be no entrance fee for the Parkersburg tournament but a green fee of one dollar per day will be charged by the club. This will entitle the entrants to all the privileges of the club, including showers, lockers, etc. The green fee of one dollar will be available only to members and guests of the Association; to all others the regular greens fee of $2 will be charged.

Prizes will include a silver cup and other minor prizes for the low gross score, low net score, runners up, etc. The cup and all other prizes will remain the permanent possession of the winners.

The Parkersburg tournament will be a handicap event and all doctors who expect to enter are excepted to send their names and handicaps either to Dr. Fisher or Dr. Camden at least a week in advance of June 20. It is anticipated that at least twenty-five members of the Association will participate in the tournament.

The date for the Parkersburg event, June 20, is one day in advance of the opening of the scientific program. Business sessions of the council and house of delegates, however, will be held on the afternoon and evening of June 20. It is the plan of the local committee to complete the tournament in one day, so that it will not interfere or conflict in any way with the annual meeting.

THE WAY OF HEALTH INSURANCE

By A. M. SIMONS

After two years' investigation of eight leading European systems of compulsory health insurance, Mr. A. M. Simons and Dr. Nathan Sinai present their report in the book, "The Way of Health Insurance," recently published by the University of Chicago Press. It will serve as a warning to the physicians and dentists of this country that if they do not take a hand in formulating the policies of

any insurance system that may be installed in the United States, the professions will find themselves in conflict with its practices when it is too late. The authors cite the case in France, when after the insurance law had passed in the Chamber of Deputies, the physicians and dentists united, tardily, in an attack on it, held up its enforcement for two years, and virtually rewrote it.

The conflict between the professions and the laws, the authors point out, is due to the fact that health insurance always has been, and probably always will be, more "poverty" insurance, or "poor relief," than medical relief. It has its origin in a social need. Its cash benefits are a fundamental part of the system, and take the place of the pay envelope when sickness interrupts earning power. Social workers are largely responsible for the agitation for health insurance and for the formulation of its regulations. Politics also plays an important part. The authors state that the German system, which was the first, was originated by Bismarck in 1883 as a political move to get the support of the Social Democrats. Politicians under any government coisider health insurance a palliative for social revolt. The pressure for social insurance becomes acute in times of depression, and history shows that attempts at legislative relief always follow economic depressions. This was true in Europe. It is true in America today. Economists say that twenty to thirty per cent of the sick do not at present receive adequate medical care. Health insurance bills are now before the legislatures of several states.

Another group that takes an active hand in formulating health insurance laws is the commercial insurance companies. This is natural, as they have the organization for the conduct of the business, and experience. In suggesting the error of allowing health insurance laws and regulations to be formulated by social workers, politicians, and commercial insurance companies, the authors make no reflection upon the sincerity or integrity of these agencies, but merely point out that since they know little of medicine and professional practice, only a minor consideration is given to these phases which affect the practitioner and the patient so vitally.

Their most detailed investigation was of the systems in Great Britain, Germany, and France, but a great deal of specific information is given about the systems of Denmark, Sweden, Norway, Austria, Belgium, Hungary, Switzerland, and other countries.

Germany has 44,000,000 insured, according to their statistics. Eighty-five per cent of all physicians give part time to insurance practice; a small group has a wealthy, non-insured practice; the rest starve, or practically so, especially the recent graduate who usually has to wait five to seven years to get into insurance practice. The insured get both medical and dental service free, and cash benefits.

Great Britain has about 16,000,000 insured (the families of the insured are not covered as they are in Germany). Any registered physician or dentist can require the insurance committee to put his name on the "panel" list, from which the insured makes his choice. This panel list is posted in a public place. The British system differs from the German in the further respect that specialist services are not included, and medical service is, as far as practicable, divorced from the social management that determines whether cash benefits shall be paid. The authors are decidedly of the opinion that separation of the medical service from the administration of cash benefits results in a more efficient and honest operation of the system.

In France—the system which the physicians and dentists practically rewrote after a two-year fight—the relation between practitioner and patient is virtually the same as in private practice. The patient has free choice of practitioner, the practitioner fixes his own fee, and the insured presents the practitioner's bill to the insurance organization and is reimbursed with a percentage of it—usually eighty per cent.

Broadly viewing insurance in action in numerous countries, the authors make three important points: First, notwithstanding the many faults and deficiencies of the various systems, no country that has ever tried compulsory health insurance would be willing to go back to pre-insurance days; second, insurance practice is generally conceded to have increased the average professional income; third, it has not apparently improved public health, nor diminished death rates or time lost in industry on account of sickness.

"One thing at least should be plain," they say, "and that is that he who says, without qualification, 'I am against health insurance,' or 'I am for health insurance,' is speaking out of the great depths of ignorance or great heights of prejudice. There is not one health insurance, but many, and each has a multitude of features, some good and some bad. It is more than within the bounds of probability that this country will follow the example of so many

others and try some system of health insurance. Whether that system will bring all the evils along with what good in previous systems depends upon how wisely those who write its terms pick and choose among the already ample experience of other nations."

This study was financed by the American College of Dentists in coöperation with the research projects of the Committee on the Study of Dental Practice of the American Dental Association, which in turn is coöperating with the Committee on the Costs of Medical Care.

THE TESTICULAR HORMONE

Experimental and clinical evidence, as well as numerous studies of transplantations, indicates clearly that the tastes possess one or more endocrine functions. In the past the criteria used for determining the effects of the extracts on castrated animals were of doubtful value but more trustworthy methods have been elaborated. While the exact chemical nature of the hormone is not known, some of the chemical properties have been determined. The most active and probably purest preparation thus far obtained is one in which a dose of 0.01 mg. of the active material per capon daily causes distinct comb growth. The product acts best when injected subcutaneously or intramuscularly; the dose for action by mouth is at least ten times as high. Thus far there has been no indication that the product can be of any value in restoring "vigor" to the aged or neurasthenic. However, if there is an indication for its use and if the dosage in man is comparable to that effective in the capon, the daily injection for a man weighing 150 pounds would have to be an amount equivalent to five pounds of bull's testis or two gallons of normal male urine. If taken by mouth, the dosage presumably would have to be much larger.—Jour. A.M.A., February 27, 1932, p. 738.

SYNTHALIN

No preparations given orally are of proved value in the treatment of diabetes. Synthalin, which has been given the most extensive trial, does seem to be beneficial in an occasional case, but Synthalin is far from being nontoxic and in some patients it produces liver damage. It seems best at present to use insulin and nothing else.—Jour. A.M.A., February 13, 1932, p. 573.

WOMAN'S AUXILIARY

PARKERSBURG CONFERENCE

With the recent organization of the Woman's Auxiliary to the Parkersburg Academy of Medicine, plans are rapidly getting under way for the state Auxiliary program and entertainment of visiting doctors' wives at the annual meeting to be held in Parkersburg on June 21-23, 1932.

A joint conference to make definite plans for the program and entertainment at the June meeting is scheduled to be held in Parkersburg at noon on May 5 at which time the officers of the Parkersburg Auxiliary will confer with Mrs. S. S. Hall of Fairmont, state president. This conference will also be attended by the officers and convention committee chairmen of the Parkersburg Academy of Medicine and by Mr. Joe W. Savage, executive-secretary of the State Association.

The Parkersburg Auxiliary has shown a keen interest in its meetings and in the plans for the annual state meeting.

NATIONAL NEWS NOTES

In the annual report recently made to the American Medical Association by Mr. F. V. Cargill, circulation manager for *Hygeia*, he stated that the National Auxiliary and its constituent state groups was the only source from which *Hygeia* subscriptions were received, that showed a gain in 1931 over 1930. In addition to personal subscriptions the Auxiliary has sent *Hygeia* to state legislators, to city, rural and parochial schools, parent-teacher organizations, Red Cross, visiting nurses associations, libraries, and many other places where the magazine might serve a useful purpose.

The forthcoming convention at New Orleans on May 9-13 will be the tenth annual meeting of the Woman's Auxiliary to the American Medical Association. The President-elect, Mrs. Walter Jackson Freeman, has just concluded a survey of the convention plans and facilities. She is delighted with the program just completed by the Entertainment Committee, headed by Mrs. Joseph Hume, chairman. Mrs. Freeman found the Jerusalem Temple in New Orleans convenient and centrally located and perfectly adequate for the headquarters of the Auxiliary. She feels assured that the convention will be a complete success. All doctors' wives attending the New Orleans meeting are invited to attend the Auxiliary program whether they are Auxiliary members or not.

MONTHLY MORBIDITY REPORT
BY COUNTIES

MARCH 1932	Tuberculosis, All Forms	Chickenpox	Diphtheria	German Measles	Typhoid Fever	Hookworm Disease	Undulant Fever	Influenza	Measles	Meningitis Cer. Spi.	Whooping Cough	Poliomyelitis	Scarlet Fever	Smallpox
Barbour	----	----	2	----	2	----	----	10	6	----	3	----	----	----
Berkeley	----	----	3	----	----	----	----	----	1	----	----	----	----	----
Boone	----	2	3	----	4	----	----	----	64	----	4	----	----	----
Braxton	1	21	1	----	----	2	----	3	----	----	----	----	1	----
Brooke	1	1	1	----	----	----	----	----	----	----	1	----	26	----
Cabell	4	6	5	----	2	----	----	63	10	----	7	----	2	1
Calhoun	----	----	----	----	----	----	----	40	----	----	7	----	----	----
Clay	1	----	----	----	4	----	----	3	45	----	----	----	----	----
Doddridge	----	----	----	----	----	----	----	180	95	----	17	----	1	----
Fayette	----	6	1	----	1	----	----	12	240	----	30	----	1	----
Gilmer	1	----	1	----	----	----	----	----	----	----	----	----	----	----
Grant	----	1	----	----	----	----	----	----	----	----	----	----	----	----
Greenbrier	----	----	----	85	----	----	----	----	249	----	----	----	----	----
Hampshire	----	----	----	----	----	----	----	----	----	----	----	----	1	----
Hancock	4	1	----	----	----	----	----	----	----	----	----	----	4	----
Hardy	----	----	----	----	1	----	----	----	----	----	----	----	----	----
Harrison	----	37	8	----	----	----	----	----	152	1	6	----	15	----
Jefferson	----	----	----	----	----	----	----	19	----	----	10	----	2	----
Kanawha	1	17	3	----	8	----	----	28	424	----	16	----	15	3
Lewis	----	----	3	----	----	----	----	----	4	----	8	----	1	----
Lincoln	----	2	----	----	----	----	----	16	1	----	1	----	----	----
Logan	5	5	----	----	2	----	----	----	5	2	7	----	3	----
McDowell	2	----	2	----	----	----	----	----	----	----	----	----	----	14
Marion	5	10	2	----	1	----	----	107	127	----	3	----	3	----
Marshall	1	3	----	----	----	----	----	----	1	----	91	----	5	----
Mason	----	----	----	----	----	----	----	100	2	----	6	----	1	----
Mercer	----	1	8	2	1	----	----	181	11	----	2	----	4	----
Mineral	6	2	4	----	----	----	----	225	3	1	7	----	25	1
Mingo	----	21	----	2	----	----	----	27	----	----	27	----	----	1
Monongalia	----	----	----	----	----	----	----	----	63	----	----	----	5	----
Morgan	----	----	----	----	----	----	----	----	----	----	2	----	1	----
Nicholas	----	1	----	----	----	----	----	----	55	----	----	----	----	----
Ohio	12	4	----	----	----	----	----	6	3	1	52	1	9	----
Pleasants	----	----	2	----	----	----	----	----	----	----	----	----	----	----
Pocahontas	----	----	----	3	----	----	----	31	----	----	----	----	----	----
Preston	----	----	2	----	----	----	----	12	19	----	----	----	----	----
Putnam	----	----	2	----	1	2	----	----	----	----	----	----	2	----
Raleigh	4	2	3	47	8	----	----	----	32	----	----	1	----	----
Randolph	----	----	----	----	----	----	----	----	----	----	----	----	2	----
Ritchie	----	----	----	----	1	----	----	127	16	----	13	----	----	----
Summers	----	----	1	----	----	----	----	100	1	----	----	----	----	----
Tyler	----	----	----	----	----	----	----	64	14	----	3	----	----	----
Wayne	----	2	3	----	----	----	----	5	----	----	15	----	----	----
Webster	1	----	1	3	----	----	----	10	7	----	----	----	----	----
Wetzel	----	----	1	1	----	----	----	----	1	----	----	----	----	----
Wirt	1	----	----	----	----	----	----	15	6	----	5	----	1	----
Wood	1	2	2	----	----	----	1	----	285	----	20	----	6	2
Wyoming	----	11	----	----	----	----	----	63	4	----	11	----	----	----
Totals	51	158	64	143	36	4	1	1447	1946	5	374	2	136	22

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THE CLINICAL VALUE OF THE ELECTROCARDIOGRAPH *

By G. H. BARKSDALE, *M.D.*
Charleston, W. Va.

ABOUT 1913 the electrocardiograph came into general use in this country and with its advent a dividing wall began to arise between the old ara of cardiology and the new. The former I shall refer to as the valve era and the latter, or new, as the muscle era. And when referring to the muscle, or myocardium, I shall regard its vascular and conduction systems as intricate parts of the same, and not to be separated, when one considers the myocardium in terms of disease.

Formerly, as many of us present know, the valve and its murmurs were the things considered. There was an obsruction to the blood stream either from stenosis or from regurgitation. If to offset this handicap the heart hypertrophied, things went well; we spoke of this as a compensated heart, and all continued well. However, a time came when the compensation or hypertrophy was not adequate and things went poorly. We referred then to a decompensated heart. This was a very fine theory, however, certain instruments of precision, namely, the polygraph, x-ray, and electrocardiograph have proved that it is not correct, and that myocardial dysfunction spells the real difference between compensation and decompensation. Or to put it more bluntly, the individual does not suffer from organic heart disease so long as the heart muscle is normal, as the normal cardiac reserve in a healthy myocardium is entirely adequate to take care of any valvular defect. I do not wish to say that the study of murmurs, etc., is of no value. On the contrary, from their study we derive certain data which is of utmost value in treatment prognosis, and gives information as to the condition of the myocradium. As an example, in aortic disease in a man of thirty-five with no rheumatic history, we think at once of syphilis. Were the lesion a mitral stenosis, one thinks primarily of rheumatism. We know practically that syphilitic aortitis is a more serious disease than rheumatic mitral disease. With the above in mind we have information which very definitely suggests etiology, directs treatment and prognosis. However, the real significance of murmurs is that they suggest the strong probability of a toxic and damaged muscle. Granting that all which has been said is correct, it is obvious that if one is to do cardiology, intelligently, certain fundamentals of the anatomy and physiology of the heart muscle must be kept constantly in mind. And if

* Read before the Kanawha Medical Society at Charleston on October 21, 1932.

electrocardiograms are to be read and discussed, such knowledge is imperative.

By way of review I will say that in the normal heart the cardiac cycle, or beat, originates in the sino-auricular node, located in the upper part of the right auricle. From this point it radiates in waves, as it were, until the auricular-ventricular node, or bundle of His is reached. From this point, it passes very rapidly down the bundle to a point where it divides into a right and left branch. These branches later break up into finer branches, or arborizations (fibres of Purkinge) which are lost in the myocardium.

The fundamental properties of the heart muscle are (1) rhythmicity, or the power to create heart beats; (2) irritability, or the power to respond to stimuli; (3) conductivity, the power to transmit the impulse; (4) contractility, or the power to do work; (5) tonicity, the power to sustain contraction without stretching. Correspondingly its two crucial physiological factors, according to the new cardiology are, the integrity of the conduction-responsive system, that is its ability to create and transmit impulses in an orderly manner, and the condition of the muscles whose function is to receive this signal to do work and to be able to do it promptly and efficiently. Arrhythmia and atonicity are the prime pathological factors.

We have just referred to the pathway of a normally formed and transmitted impulse to its final ramifications in the myocardium. With its transmission so-called electric potential is generated. An electrocardiogram is a photograph of the route taken by the contraction impulse through the heart muscle. It measures the time consumed and records graphically either a normal trip or certain detours or hazards it may have met on the way. The course of the impulse is measured through three different planes referred to as Leads One, Two, and Three. One and Two are known as the significant leads. Lead Two is probably the most important because it pursues the longest axis of the heart. If one visualizes a photograph taken of an electric current, passing through a wet board, in which there are knots, a rotten place, a hole, etc., it will be seen that the current has lagged in one place, sped up in another, diverted from its course in another. Apply the same thought to a current passing through a diseased myocardium, and you have a clear idea without the frills of what an electrocardiogram is.

My idea this evening is not to go into too much detail but to answer for myself and others here who may be interested, just what the electrocardiograph really is and what it actually contributes towards diagnosis, prognosis, and treatment.

Diagnosis.—As an introduction to the subject, it should be noted that in certain conditions the electrocariograph gives an accurate and complete diagnosis. However, all workers agree that readings should be correlated with all other available data. Failure to comply with this will undoubtedly cheapen this most valuable instrument in the minds of the observer who has been so unwise.

The electrocardiograph will differentiate between those heart disturbances which are alleged to be functional and those which are due to organic heart impairment. (Calvin Smith.) The above general statement is based on the observation that an unqualifiedly normal tracing is recorded when the myocardium is normal, or practically so. This statement, while not a hundred per cent correct, is so in a sufficiently large number of cases to justify its acceptance in practical work. A tracing may show digressions from the normal which can not be explained. However this may be, it is quite reasonable to assume that such a muscle is abnormal unless it can be proved otherwise.

AURICULAR FIBRILLATION may be diagnosed assuredly. It is of greatest value in slow fibrillation, beginning fibrillation and to settle in such cases the suspicion that the irregularity may be due to a series of extrasystoles, or at times block.

AURICULAR FLUTTER can only be positively diagnosed by means of the electro-

cardiograph and should most certainly be diagnosed, for complete digitalization may here save life.

EXTRASYSTOLES—the most frequent irregularity seen by the physician. Its certain recognition may justify the statement that it is a minor thing, and a search should be made for a toxic factor coming from without, as tobacco, coffee, etc., or within, as a focal infection. The matter of being sure that extrasystoles are such, will account for many erratic arrhythmias difficult to explain and may save mistaken diagnoses, which might later prove embarrassing. Extrasystoles have been confused with block, fibrillation, and what not.

PAROXYSMAL TACHYCARDIA is usually diagnosed without difficulty. However, an electrocardiogram is of great value to demonstrate whether or not the tachycardia is incident to a diseased myocardium, as in auricular flutter.

SINUS ARRHYTHMIA can and should be diagnosed by clinical methods; as true as this may be children with normal hearts have been kept in bed indefinitely because of a fancied myocardial disturbance, whereas an electrocardiograph would have proved the heart normal.

HEART BLOCK is the phenomenon in which the electrocardiograph is at its best. It diagnoses the condition without doubt, gives in terms of seconds the delay time of the impulse and shows graphically where the delay is located. Accordingly, we have first, second, and third degree heart block, arborization and bundle branch block. The differential diagnosis of these conditions has its greatest value in prognosis and will be again referred to. "First degree block, formerly thought to be a rather unusual condition, has been shown within recent years to be frequently associated with most of the acute infectious diseases, and is especially common in acute rheumatic fever, diphtheria, scarlet fever, pneumonia, and certain types of influenza. It may be noted in certain very acute toxic conditions, like tonsillitis and erysipelas, and whenever found is unmistakable evidence of myocardial involvement. Its importance to the clinician lies in the fact that it is a definite indication for prolonged convalescence, for it is believed that heart strain at this time may cause irremediable myocardial damage." (Parsonnet and Hyman.)

CORONARY DISEASE.—Given, a suggestive history and the changes in the ventricular complex referred to as Pardee's sign of coronary occlusion, the diagnosis is reasonably assured. The matter of coronary occlusion certainly needs further illumination for it is usually called angina pectoris, often referred to as gall bladder colic or acute indigestion.

VENTRICULAR PREPONDERANCE. — When physiologic or pathologic conditions arise in the cardio-vascular system of the nature to increase the size of the right or left ventricle, the electrical axis moves to the hypertrophied side, thereby changing the normal electrocardiogram and the different leads assume new values. This is known in the old nomenclature as right or left ventricular preponderance. The newer terminology being right or left axial deviation. Left axial deviation suggests aortic insufficiency and stenosis, hypertension, and nephritis. Right axial deviation, simple mitral stenosis and certain congenital lesions. I have used the word "suggests" for a great number of conditions alter the electric axis, some of them not being pathologic. In other words, right or left axial deviation *per se* only gives one certain things to consider. A slight preponderance, either right or left, is not a reliable guide in children.

HYPERTENSION.—The electrocardiograph alone does not give any definite information as to the effect of hypertension on the heart until a myocardial degeneration has taken place; nor does hypertension alone produce preponderance. In fact, the tendency is the other way. The higher the blood pressure the less likelihood of left ventricular preponderance.

MYOCARDIAL INVOLVEMENT.—In looking through the literature one often finds the phrase: "Electrocardiographic evidence of

myocardial involvement." It sounds well, however, the picture complex is not so simple. The evidence, as I gather, consists of a group of certain irregularities which must be correlated with history and all other available data as before noted, and such irregularities are certainly more significant to those experienced in the work. The preceding statement is intended more to apply to very early, to transient, or diffuse myocardial disease, as distinguished from gross classic changes such as block, coronary disease, etc. Parsonnet and Hyman refer to the signs of myocardial toxicity as follows: Prolongation of the conduction time, delay or notching in the Q R S complex ,and alterations of the T wave. Changes in the Q R S and T waves in the same record and low voltage might be included. The added presence of extrasystoles must be regarded as evidence of serious myocardial disease. While all of the irregularities noted are important, they take no more serious import and are of more direct diagnostic or localizing value when occurring in certain groups. Eighty-five per cent of all patients with enlarged hearts show electric manifestations of myocardial disease.

VALVULAR DISEASE.—In answer to what the electrocardiograph gives in valvular heart disease, one must answer very little, for if what has been said is recalled it will be noted that the electrocardiogram is a photograph of the electric current generated within the heart muscle. Therefore, valvular lesions produce no alterations in the electrocardiogram until muscle changes have occurred, disposing at once of all early valvular lesions. It is quite true that certain lesions produce hypertrophy of the walls of certain chambers of the heart with corresponding electrocardiographic alterations. There are unfortunately other conditions which will do the same thing. Aortic disease will give left ventricular preponderance and so will a right side pleural effusion; mitral disease will give a right ventricular preponderance; left pleural effusion will do the same thing. Unfortunately, the preponderance may be changed in any event by such factors as may push the heart to the right or the left of its normal position or cause it to rotate on its own axis. And further, a ventricular wall may become markedly hypertrophied and show at sometime a marked preponderance, later to recede from this on account of a diminution of tone or pep in the hypertrophied walls, on account of the lack of electric current generated. The electrocardiogram gives certain informative value in congenital lesions. In all, it may be said that, with all information in hand, in a difficult case a carefully considered tracing may be of very considerable value.

Prognosis.—A man whom I very much respect said to me on one occasion: "Never despair of a heart case, for hearts can do most wonderful things. This is true even in the aged and cases you may think are done for." The burden of this very wise statement is that we are woefully weak in the prognostics of heart disease. Granting all of its limitations, the electrocardiograph offers the most helpful single procedure in arriving at a sane prognosis in heart disease.

The electrocardiograph may give evidence of serious toxic myocardial invasion which obviously implies a serious prognosis. However this may be, I wish to add here that the same instrument which has recorded, and accurately, a diseased heart muscle, has later told the good news that the muscle had completely repaired. This is especially true in myocardial degeneration following the acute infectious diseases and sepsis. As a general rule, it may be said that individuals who show multiple disturbances in the normal cardiac mechanism, as shown electrocardiographically, have a grave prognosis. (Kerr.)

Given a mitral stenosis showing a marked right ventricular preponderance, broad and notched P. deflection, the inference is that the stenosis is extreme, and the prognosis is bad.

Negative T waves in various combinations of leads 1, 2, and 3, other than in lead 3 alone, warrant a grave prognosis. The mortality figures in the present study are com-

parable to those of other observers. In a series of 97 such cases, the grand average mortality was 49 per cent in 8.27 months. (Hepburn and Jamieson.)

Bundle branch block proves to be a most serious electrocardiagraphic abnormality, 65 per cent of those showing bundle branch block die from cardiac disease; the average length of life was only fourteen months after the date of the examination. (Willius.)

Cowan and Bramwell are of the opinion that bundle branch block alone is not necessarily of grave prognostic significance. The reason that it appears so serious is that cases showing the lesion have evidences of other extensive myocardial damage.

The mortality in patients with fibrillation plus ventricular extrasystoles is as high as the mortality in pulsus alternans, that is, 100 per cent in three years. (Hepburn and Jamieson.)

The average expectation of life is distinctly less for patients with notching of the Q R S complex than for patients otherwise similar, but with normal ventricular waves .(Willius.)

In hypertensive heart disease, the electrocardiograph is of great help in prognosis.—High voltage or low voltage of the Q R S complex renders the prognosis grave.—Inversion of the T wave is unfavorable, especially if inverted in all three leads. If in addition there is an upward convexity of the S T interval in all three leads, the prognosis is generally less than one year. Bundle branch block occurring in hypertensive heart disease renders the prognosis very serious. (Verity.)

Low voltage is a finding of diagnostic and prognostic importance in forming an opinion of the myocardial ability of any individual. Two-thirds of the arteriosclerotic group died within two years after the finding of low voltage. This finding was present in ten cases of hypothyroidism, disappearing after treatment. (Sprague and White.)

Where there has been clinical, historical, and instrumental evidence of coronary artery sclerosis the development of extrasystoles is to be regarded as ominous; more than 95 per cent of such cases having died within the ten-day period following the discovery of the ectopic beats. (Parsonnet and Hyman.)

Treatment.—Earlier in this paper I have done my utmost to enumerate those conditions which the electrocardiograph actually diagnoses or even assists in an arrival at an accurate diagnosis; for in the final analysis the goal of all diagnosis is successful treatment. Thus, as pointed out, one would not wish to push digitalis in a case of premature beats, for such treatment will tend to make such beats more frequent; nor would one advise a neuro-circulatory asthenic, or a sinus arrhythmia case to refrain from exercise. Further, the lives of patients with flutter and fibrillation might be saved by digitalization. You will recall that flutter is only diagnosed with assurance by the electrocardiograph.

The electrocardiograph has shown definitely the presence of myocardial involvement following the acute infectious diseases as previously noted. Such being the case, pulse and heart action should at least be honestly considered before one convalescing from such diseases is allowed up. This is especially true of pneumonia and influenza. If the disease is chronic and the electrocardiographic abnormalities persist, the same principles of treatment should apply as when the patient has a real valvular lesion, cardiac enlargement or some other structural cardiac abnormality.

The treatment of patients with syphilitic heart disease with arsphenamine is frequently followed by striking changes in the form of the ventricular complex. The exact nature of these changes is uncertain, but it is probable that they indicate cardiac damage of some sort. In the treatment of auricular fibrillation with quinidin, electrocardiographic observations are essential, as this drug gives rise to the most complicated disturbances of the heart's rhythm and to high grade disturbances of intra-ventricular conduction. These disturbances can not be recognized other than by cardiograms and it is impossible to give this drug intelligently without such control. (Wilson and Herrman.)

As an index of successful treatment in myocardial degeneration, bundle branch block in particular, it has been noted that voltage varies with the clinical condition, being very low when the myocardial failure was marked and rising to normal values when the signs of failure improved markedly, or diappeared. In much the same way the electrocardiogram records the conduction time improvement in cases of syphilitic heart block under active treatment.

In this country, at least, all workers are agreed as to the value of electrocardiographic study of patients taking digitalis. It constitutes a most accurate control; it has been demonstrated by Pardee, Eggleston, and others, that active digitalization is accompanied by typical alterations in the T wave, especially in lead 1, but also in leads 2 and 3. Its true value lies in the fact that one knows when the patient is digitalized, and if digitalized only such amounts are to be further used as is necessary to maintain digitalization. To avoid the clinical symptoms of over digitalization, severe occipital headache, vertigo, nausea, diarrhea, etc. The value here is that the gastro-intestinal symptoms if quite pronounced may be very hard to overcome and some such patients never again, in the same illness, tolerate digitalis well. Another great value, to my mind, is to shut out argument; that is to say, if the patient is digitalized as shown electrocardiographically only further maintenance doses are indicated. Long before clinical evidences of digitalization occurs, changes appear in the electrocardiogram showing that the drug is acting. In this way one can gauge not only the dose, but also the potency of a given preparation. (Criel.)

The electrocardiograph can be used to standardize digitalis. This is not without its value in these days when almost daily a new preparation of digitalis is presented to you with the advice that it should be used because it is the best preparation of digitalis on the market. The daily maintenance dose, or the amount necessary to keep the patient properly under digitalis effect, has been accurately measured in man by the electrocardiograph, as shown by Bromer and Blungart. They give us the valuable information that 23.5 min. per day is the average daily amount required to maintain digitalization.

Summary.—In the past, too much consideration has been given to cardiac murmurs. We now know that the integrity of the heart is entirely dependent upon the condition of its muscle, conduction and vavscular systems.

A complete familiarity with the heart's anatomy and physiology are essential for a proper appreciation of electrocardiography.

Under all circumstances interpretation of an electrocardiogram should be correlated with all other available data.

An electrocardiogram showing atypical deflections as noted is indicative of a diseased heart muscle, while a normal electrocardiogram suggests a healthy muscle.

The electrocardiograph identifies all arrhythmias and is here at its best. It tells where the causative defects are and helps to differentiate between harmless abnormalities and those which indicate grave lesions.

Its value in valvular heart disease is definitely limited.

In hypertension it gives nothing informative until myocardial degeneration has taken place.

In the matter of prognosis it gives information that can not be obtained otherwise. It is here highly valuable and becomes more so as one's knowledge of reading records increases.

In treatment, it suggests whether medication is or is not indicated, the dosage, and gives evidence of the progress that one is making therapeutically.

RURAL SCHOOL PROBLEM

The chief interest of the Kellogg Foundation at the present time lies in the rural school problem. It is desired to encourage the consolidation of small country school districts and to establish a central school including all classes and grades up to university entrance, a school in which vocational training and health courses may be added to the curriculum, Dr. Stuart Pritchard in the June *Hygeia.*

CLINICAL EXPERIENCE WITH AVERTIN ANAESTHESIA *

By CREED C. GREER, M.D.
Clarksburg, W. Va.

THE PURPOSE of this paper is to report my experience with avertin anaesthesia in two hundred surgical cases which have been dealt with from February, 1930, to the present time.

Avertin was first synthesized by Willstatter and Duisberg in 1926. The avertin fluid, which is generally used in this country, is tribromethyl alcohol dissolved in a solution of amylene hydrate, one cubic centimeter of the fluid containing one gram of the crystalline avertin (tribromethyl alcohol).

The following preoperative preparation has been used. The evening before operation the patient is given a laxative or cleansing enema and the morning of operation another cleansing enema is given. It is preferable to give the enema two or three hours before the administration of the avertin to insure a cleansed and empty colon. One-half hour before the anaesthesia one-sixth grain of morphine sulphate and one one hundred and fiftieth grain of atrophine sulphate are given hypodermically.

The dosage of avertin, as in other types of anaesthetics, is variable and while the body weight is the basis of calculating the dosage there are other factors that should be taken into consideration when determining the amount to be used and not simply a "rule of thumb" followed.

The amount of avertin, used in this series of cases, varied from 100 to 125 milligrams per kilogram of body weight, although in a number of cases smaller amounts were given. There are a number of factors that influenced the dosage. Patients who are cachectic or have poor circulation, with a resulting retarded renal output, respond to smaller amounts of avertin. Likewise an obese individual should not be given the above dosage corresponding to his actual weight but that more nearly conforming to his ideal, or "insurance" weight. Children require a relatively larger dose and the aged less. The young athletic type requires a relatively larger amount. In every case the anaesthetist should be influenced by the general physical makeup of the patient in calculating his dosage.

The preparation of the avertin solution for administration is a comparatively simple procedure and requires both a small amount of equipment and time. But there are several important details and precautions that must be observed. The preparation of the solution is begun fifteen or twenty minutes before the time of operation as follows: The measured amount of distilled water for a three per cent solution is heated in a water bath until it reaches 38 to 40 degrees Centigrade. It should never exceed 40 degrees as dibromacetaldehyde and hydrobromic acid are formed and the former is very irritating to the rectal mucosa. The determined amount of avertin is added to this solution and shaken vigorously until no oily globules are visible. Two or three drops of a 1:1000 aqueous solution of Congo red are added to five centimeters of the above solution. An orange-red color is produced. If a blue or violet color appears it should not be used as this denotes decomposition of the tribromethyl alcohol with the formation of hydrobromic acid and dibromacetaldehyde. With decomposition excluded the solution is ready to be instilled into the rectum.

The solution is now instilled by gravity through a rectal tube inserted approximately six inches from the anal sphincter. The patient is placed on his left side to facilitate the introduction of the fluid. An advantage to the patient is the administration while he is in his room. He is asleep when removed to

* Read before the Harrison County Medical Society at Clarksburg on March 3, 1932.

the operating room and is thus spared the psychic influence that frequently disturbs the patient. This is especially desirable in nervous and excitable individuals, whether it be due to hyperthyroidism or any other cause. In several instances the patient did not know that the "enema" contained an anaesthetic and was not aware that he had been operated upon until several hours after operation.

Avertin is rapidly absorbed by the intestinal mucosa and the patient begins to feel drowsy and is frequently asleep within three to five minutes after its instillation. The stage of narcosis is usually reached within fifteen minutes.

The indications for the use of avertin are practically any surgical procedures that require general anaesthesia, as well as several medical conditions, such as controlling the convulsions of tetanus and eclampsia and in the various psychoses.

The contraindications are as yet somewhat in dispute but serious disease of the liver and kidneys and lesions of the rectum are generally accepted as positive contraindications.

The operations in which avertin anaesthesia was used, including the twenty-five cases reported in THE WEST VIRGINIA MEDICAL JOURNAL of September, 1930, are as follows:

1. Face	3
2. Oral Cavity	19
3. Nasal Cavity and Accessory Sinuses	3
4. Neck	21
5. Breast	11
6. Abdomen (Laparotomies)	116
7. Kidney	4
8. Vagina	9
9. Rectum	2
10. Bone	5
11. Extremities	4
12. Miscellaneous	3

These operations included 17 thyroidectomies, 10 breast amputations, 18 hysterectomies, 17 cholecystectomies, 8 suprapubic prostatectomies, 24 appendectomies, 2 nephrectomies, 2 nephrotomies, 17 herniotomies and reduction of fractures, amputations, excision of varicose veins, cesarean sections, gastro-enterostomies, et cetera.

Avertin causes a decrease in the blood pressure in practically every case, although there has been an actual rise in two cases, the cause of which was not determined. The fall of both the systolic and diastolic is quite variable although we have noted the maximum decrease in those patients having hypertension. It is not unusual to have a systolic drop of fifty or sixty millimeters of mercury and occasionally have had a decrease of one hundred millimeters. There is always a decrease in the diastolic pressure but not so marked as the systolic reading. When we first began using this anaesthetic we gave ephedrine sulphate, hypodermically, both preoperatively and during the anaesthetic to counteract the fall in blood pressure. Now it is rarely given and we pay little attention to this fall of blood pressure because the patients have good color, unlabored respiration, and no evidence of pulmonary or cardiac embarrassment. The blood pressure is raised when it is necessary to supplement the anaesthetic with either nitrous oxide or ether. The manipulation of tissues during the operation has a tendency to raise the blood pressure.

There is an acceleration of the pulse rate which seldom exceeds twenty-five beats per minute. A small increase in the respiratory rate has been noted in most of our cases.

Avertin is generally regarded as a basal anaesthetic, and while we have regarded it as such, it has not been necessary to use supplemental anaesthesia in 133 cases, or 66.5 per cent. In the remaining 67 cases in which another anaesthetic was necessary, a very small amount of either nitrous oxide or ether was necessary in practically every instance. Ether has been used more often as a supplement, and in a goodly number of cases one ounce has been sufficient to obtain surgical anaesthesia. In those cases in which nitrous oxide was used a 25 or 50 per cent mixture was usually sufficient. In one instance, in which a radical frontal sinus operation was

done, novocaine was used as the supplementing agent.

With avertin, as in all other forms of anaesthesia, with the possible exception of certain local types, it is imperative that an experienced anaesthetist be present in every case.

Not only is the induction of sleep with avertin quiet and peaceful but the postoperative, or postanaesthetic, course has a number of advantages over that of other general anaesthetic agents. There is little or no nausea, vomiting, depression or headache except in those cases in which a supplemental anaesthetic is used. The patients have a quiet and restful sleep following their reaction and require less morphia or other anodynes for the control of postoperative pain. There is no irritation of the respiratory passages with avertin, with the resulting absence of coughing, retching, vomiting and choking sensation so frequently present during the induction period with inhalation types of anaesthesia. The increased flow of saliva and mucous so frequently seen in ether anaesthetics does not occur with avertin. There is also a marked decrease in the amount of perspiration of the patient with a diminution of loss of body heat during the operation. Without exception, the muscular relaxation has been satisfactory for abdominal and other types of operations which frequently can not be had with nitrous oxide or ethylene.

The oldest patient was 77 years of age and the youngest was six years old. There were 78 males and 122 females in this series. There were eight patients upon whom a suprapubic prostatectomy was performed and whose average age was 67 years. There have been nine patients who have had two or more operations under avertin anaesthesia. One patient had four anaesthetics in a period of three and one-half months without any discernible ill effects. There have been a number of patients who have had previous anaesthetics of various kinds and, without exception, they much prefer avertin.

We have had no cases of rectal irritation and no evidence of kidney or liver irritation. There have been no cases of respiratory tract involvement except in one instance, a man 77 years old had a mild bronchitis following a prostatectomy. There have been no fatalities, or near fatalities, in this series of 200 cases.

In conclusion, the statement of J. R. Guttman seems appropriate: "It might be stated that while the last word on tribromethyl alcohol has not yet appeared, it approaches the ideal anaesthetic more closely than any other at our present command."

ACTIVITY OF HEART

"A sudden rise in blood pressure may even make a brow-beaten, hen-pecked animal talk back to his wife," Dr. A. Lee Briskman comments jestingly in his article entitled "The Blood Pressure Racket," appearing in the June issue of *Hygeia* magazine.

The body weighs 205 times as much as the heart, which is about five inches long and 3½ inches wide. Under normal conditions, when the pulse rate is about 72 beats a minute, approximately eight pints of blood is pumped through the heart. In fact, if a man 84 years of age could have had one single blood corpusle floating in his blood all his life, it would have traveled in that time nearly 5,150,000 miles!

The work of the heart is made increasingly difficult by hardening of the blood vessels, which is caused by (1) the normal wear and tear of life; (2) acute infections, such as tuberculosis or the veneral diseases; (3) intoxications caused by alcohol, lead and tobacco, and (4) personal habits, such as worry and over-eating.

A study of 400 persons showed that high blood pressure is a disease that leads to pathologic changes, whereas low blood pressure is not a disease and does not lead to such changes.

Every person has two blood pressures, a high and a low. When the doctor informs the patient concerning his blood pressure, he gives him the figure for the high pressure, called the systolic. In a normal young man, the systolic pressure should be between 110 and 120 mm. of mercury. A normal person of twenty years should have a systolic pressure of approximately 120. For each increase of one year, the pressure goes up half a millimeter. For example, a person forty years old should have a pressure of 130 mm.

AVERTIN ANESTHESIA *

By JAMES A. DUFF, M.D.
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IN PRESENTING this paper to this association of railroad surgeons it is my object through a thorough discussion that the advantages and disadvantages of the use of avertin as a general anesthetic may be brought out and we all, in turn, may be benefited by the other fellow's experience. My experience in the use of avertin covering my first 100 cases has been pleasing, and I believe it will be well first to enter into the description and pharmacology. Under the latter comes absorption, elimination, toxicity, local action, effect on respiration, effects on heart and blood-pressure, prolonged use, and other effects.

Description.—Avertin, originated by Willstaetter and Duisberg and introduced into therapeutics by Eichholtz, is tribromethanol. It is a white crystalline substance which readily sublimes, has a melting point of 79 to 80 degrees C., and is soluble in water at 40 degrees C. up to 3½ per cent. It must be protected against light and air.

Solutions of avertin in water must be prepared at moderate temperature, 35 to 40 degrees C. At higher temperature hydrobromic acid is split off with the formation of dibromacetaldehyde. This must be avoided as dibromacetaldehyde is extremely injurious to the intestine even in small amounts.

Pharmacology.—Avertin is absorbed by the intestinal mucosa more rapidly than the water in which it is dissolved. The avertin content of the injected solution, therefore, decreases considerable at first. Its concentration in the blood during the anesthesia is 6 to 9 mg. per cent.

Elimination.—Avertin becomes detoxicated by combining with glycuronic acid and is eliminated in this combination by the kidneys. Straub recovered from the urine 81 per cent of the administered avertin in the form of glycuronic acid compounds. Traces of bromin were detected in the perspiration but not in the feces nor the expired air. Minute amounts of inorganic bromin were found in the urine but could not be identified positively.

Toxicity.—Because of the rapid absorption of avertin, sleep occurs in animals within a few minutes after oral or rectal administration. There is no preliminary stage of excitement. Awakening takes place as out of deep natural sleep and the animals immediately accept food.

Local Action.—Avertin produces irritation when injected into the colon of the rabbit, which is very sensitive. However, the intestinal mucosa of the dog, rat, and mouse is not injured, hence rectal avertin anesthesia can be frequently repeated.

Effect on Respiration.—In rabbits, doses of 50 mg. per kilo given by the mouth cause slowing of respiration. This effect, which occurs early, may be demonstrated in all kinds of animals. The respiration can be improved by various stimulants, caffein, carbon dioxide, etc., provided the anesthesia is not too deep. When avertin is given to animals in great excess, these stimulants fail, including carbon dioxide which has proved so serviceable after marked overdosage of avertin in man. This is not a peculiarity of avertin anesthesia, as carbon dioxide is also ineffective in rectal ether-oil anesthesia in the rabbit.

Although the respiratory center is affected by comparatively small doses, the minimal narcotic dose can be considerably exceeded in the animal without causing cessation of respiration. In this connection it is interesting to observe the reactions of animals subjected to vagotomy. In a normal rabbit 300 mg. per kilo by mouth decreased the respiratory frequency from 66 to 24, and the volume

* Read before the fortieth annual meeting of the Baltimore and Ohio Association of Railway Surgeons, held in Atlantic City, June 8 and 9, 1931.

from 365 c.c. to 270 c.c. On the other hand, the same dose given to another animal whose respiration had been greatly impaired by vagotomy produced a change in the frequency from 34 to 32, the volume remaining constant between 380 c.c. and 440 c.c. This means that even in the presence of dyspnea the respiratory center is relatively resistant to avertin. Likewise, Straub found that an increase of the dose causes slowing of the frequency, although the volume of the individual inspirations is augmented.

Effects on Heart and Blood-Pressure.—Heart and blood-pressure are practically uninfluenced by a dose of avertin sufficient to induce anesthesia. Only excessive dosage is followed by considerable decrease of blood-pressure and eventual failure of the circulation. This can be effectively combatted with ephedrin or with suprarenin.

Prolonged Use.—In tests extending over a long period, avertin proved to be without injury to any of the internal organs. A daily rectal dose of 400 to 500 mg. per kilo was given to white mice one hundred times within seventeen weeks without deleterious effect upon the liver or other viscera. Some of the animals became pregnant during this period and had healthy offspring. Avertin is tolerated by white mice much better than chloroform and ether.

The Use of Avertin in Surgery and Gynecology; Pre-Operative Preparation.—The evening before operation a hypnotic is administered and the customary cleaning with enema is given. Special measures to empty the intestine on the day of operation are not necessary. In fact, it has been recommended that rectal irrigation be avoided immediately before injection of the avertin solution, as the fluid which remains in the bowel may retard absorption. It has been found in emergency cases that avertin is sufficiently effective without a preparatory enema.

Before the operation a hypodermic injection of morphine, 0.01-0.02 gm. (1/6-1/3 grain), is generally given. Some operators have omitted this injection with equally good results. In some cases, especially when extreme dehydration was suspected, 16 to 24 ounces of fluid were given orally during the night before the operation.

Technic.—The amount of avertin is calculated according to the weight of the patient, 80 to 100 mg. per kilo. This is dissolved in a sufficient quantity of distilled water (35 to 40 degrees C.) to make a three per cent solution. After being tested, as described below, the solution, at body temperature, is injected into the rectum. Besides distilled water, physiologic saline solution has been used without essentially different results. Martin added milk, 1/10 volume, to the anesthetic fluid. This seemed to retard absorption and prolong the anesthesia.

In preparing the solution it is necessary to follow implicitly the directions so as to avoid complications. When subjected to higher temperatures than those given above, avertin decomposes with formation of hydrobromic acid and dibrom-acet-aldehyde. As these compounds, especially the latter, are very irritating to the intestine, the temperature of the solution should never exceed 40 degrees C. Neither should it be allowed to cool since this may cause crystallization of the avertin, thus rendering the injection ineffective.

Furthermore, the solution should always be tested with Congo-red before it is administered. On addition of two drops of a 1 to 1,000 aqueous solution of Congo-red to 5 c.c. of the three per cent solution, the resulting color should be a clear orange red. Change of color to blue shows the presence of free hydrobromic acid, and, therefore, indicates a decomposed solution.

The color reaction gives reliable results only with solutions prepared with distilled water. Milk must not be added to the aqueous solution before making the test with Congo-red. The solution must be kept at body temperature; reheating is contraindicated.

A special form, avertin-fluid, containing 1 gm. of the drug in 1 c.c. facilitates the preparation of avertin solutions. When using

avertin-fluid the necessary amount is carefully measured in a graduated cylinder and then diluted to a three per cent solution with distilled water at body temperature while agitating vigorously. Here, too, the Congo-red test must be performed.

The mode of injection has been modified in various ways. Attempts have been made to accelerate absorption by rapid administration, or to improve the results by giving a very small initial dose, and then adding drop by drop until dose is reached.

Noteworthy advantages were not obtained by these modifications. Therefore, the technic of simple injection within three to four minutes, as used by the majority of operators, seems at present to be the most advisable.

As complete anesthesia has not always been obtained with the customary dose, the suggestion has been made to deepen it by administration of morphin and scopolamin one or one and one-half hours before operation.

To prevent reduction of blood-pressure which, according to pharmacological tests, may be anticipated, or to elevate the pressure during the operation, suprarenin has been given. Others have recommended rectal or subcutaneous injection of 1 to 2 c.c. of five per cent ephedrin solution.

After waiting for about fifteen minutes it can usually be determined whether the dose administered has been sufficient. Frequently it has been found that by waiting up to thirty minutes the operation can be performed without the addition of ether. Therefore, it is advisable to provide for this waiting period.

If the application of iodin, towel clips, etc., elicits a reflex movement, a small amount of ether should be given before making the skin incision.

Dosage.—The doses recorded in the literature vary from 70 to 200 mg. per kilo body weight. While 70 to 80 mg. have been used in debilitated, cachectic or dehydrated patients and doses above 150 mg. have been given by only a few operators, the vast majority of clinical tests were made with 100, 125, and 150 mg. per kilo. The last-mentioned dose in general has proved excessive. About 30 per cent of the patients have responded to 100 mg. with complete anesthesia and this amount is commonly regarded as free from risk in patients who are not debilitated.

Although it is obvious that the calculation of the dose according to body weight is only an approximate guide, it should, nevertheless, be followed until the operator has familiarized himself thoroughly with the method. To this end it is advisable that the avertin anesthesia be entrusted to one person. Afterward it will be possible to individualize the doses not only according to the body weight but also with respect to the condition of the patient. A cachectic or dehydrated patient will not require the same amount as a strong person who is in good general condition aside from his acute disease. Under no circumstances should complete anesthesia be enforced with avertin alone.

After the anesthetic is given, the patient should be placed in a dark, quiet room for about twenty to thirty minutes. During this time he should not be disturbed by attempts to test the intensity of the anesthesia.

When the initial dose of 80 to 100 mg. per kilo body weight is not sufficiently effective, additional amounts of avertin may be administered. If the patient is not asleep fifteen minutes after the first injection, 25 mg. avertin per kilo may be given after ten minutes if necessary. Most authors, however, regard this procedure as too complicated and resort immediately to inhalation anesthesia, usually with ether. In the vast majority of cases, 10 to 30 gm. of ether suffice, although occasionally amounts exceeding 100 gm. have been employed.

Avertin has been combined with nitrous oxid anesthesia, local anesthesia, and even with spinal anesthesia. According to Polans, the last combination is decidedly inadvisable.

The average duration of the anesthesia with 100 mg. avertin per kilo body weight, possibly supplemented with a small amount of ether, is about one and one-half to two hours. During this entire period the patient must

be watched to prevent asphyxia due to dropping of the jaw.

Immediately after regaining consciousness most patients fall into an agreeable sleep, during which post-operative pain is not experienced. Vomiting, so common and distressing after ether, is practically absent in avertin basal anesthesia. In fact, most authors report that the majority of patients feel perfectly well. The incidence of post-operative pneumonia and bronchitis is considerably diminished. In this respect avertin anesthesia approximates local anesthesia. Almost all observers state that intestinal irritation does not occur when the directions are strictly followed. Pre- and post-operative excitement was absent in most cases, or very mild. Especially impressive is the amnesia, which extends back to the time of the injection. Patients even when apparently so excited that ether had to be given had no recollection of the occurrence.

Indications and Contra-indications.—Avertin has been used in practically all surgical and gynecological operations. It is especially recommended in operations for cleft palate, on the neck and the head and extremities, on the prostate, in prolonged abdominal operations, in the presence of heart and lung complications, in exophthalmic goiter, in very nervous and hysterical patients, and in all cases which special caution is advisable.

Avertin is probably detoxicated in the liver. Diseases of this organ must, therefore, be regarded as contraindications—although patients with severe icterus and hepatic lesions have been anesthetized with avertin, without the slightest injury. Other contraindications are serious renal disease, acidosis, serious diseases of the blood, extreme cachexia and advanced pulmonary tuberculosis.

Notwithstanding the contradictory character of some of the reports, it would appear that the only positive contraindications are severe diseases of the liver and rectum, and advanced tuberculosis. For the present, however, it is advisable to exclude several other conditions or at least to exercise caution in the dosage. This applies to debilitated, elderly, dehydrated, as well as obese patients, in whom doses of 80 mg. per kilo usually suffice. Although ileus and peritonitis are not to be regarded as definite contraindications, a small initial dose should be employed because in these cases it is impossible to determine the extent of the intestinal lesion and the degree to which absorption is impaired. The same applies to patients with chronic, extensive pus foci, who are greatly debilitated and present more or less acidosis, in consequence of which their detoxication capacity is greatly reduced. Caution must also be exercised in estimating the dose for patients with marked inanition in whom a glycogen deficiency and reduced detoxication capacity may be assumed; likewise in cases of severe bilateral renal diseases in which the product of detoxication is only slowly eliminated.

Preparation of the Solution.—Use of avertin-fluid: (a) Each 1 c.c. avertin-fluid corresponds to 1 gm. avertin powder. (b) Measure the dose of avertin-fluid in a graduated syringe or with a pipett. (c) Heat the amount of distilled water necessary for a three per cent solution to 35 to 40 degrees C. (95 to 104 degrees .) Use a vessel holding one liter which can be tightly closed. (d) Add the avertin-fluid and shake vigorously until a thorough mixture results.

Obligatory Test for Purity.—Immediately before injection, 5 c.c. of the three per cent avertin solution is placed in a test tube and one to two drops of a 1:1,000 aqueous Congo-red solution is added. The resulting color must be pure orange red. If the color changes to blue, the solution should not be used, as it is decomposed and hence dangerous. The color reaction is applicable only to solutions that have been prepared with distilled water. Milk, if employed, should be added only after the aqueous solution has been found satisfactory.

Anesthesia.—The injection of the three per cent avertin solution at body heat should be made twenty to thirty minutes before the operation, in a darkened, quiet room. If the

application of iodin, towel clips, etc., elicits reflex movements, a little ether should be given before making the incision. To maintain complete muscular relaxation, during the operation, from 10 to 30 gm. of ether (occasionally up to 100 gm.) may be required. Dropping of the jaw must be watched for until the patient awakes.

My own experience in my first 100 cases has covered a various number of different surgical conditions, and I have found that if avertin is used judiciously it is the ideal anesthesia. I have performed under avertin anesthesia: Twenty appendectomies, thirty tonsillectomies, five hysterectomies, four thyroidectomies, three hernioplasties, three breast amputations, one mastoid, five cesarean sections, five salpingectomies, one rectal abscess, one tendon suturing, two bone plating, three perineorrhaphies, seven gall-bladders, one varicocele, one pulmonary abscess, three empyemas, and three amputations. I have had only two of the 100 cases to show any alarming effects.

Mrs. S., forty-five years old, for a tonsillectomy, was admitted to the hospital with a blood-pressure of 150 over 100. She was given the usual preparation for avertin and in fifteen minutes after taking the avertin her blood-pressure jumped to 200. Her pressure was checked throughout the operation and went as high as 250; she became cynotic and was given carbon dioxide gas and returned to her room after the operation. Her blood-pressure was checked every hour for five hours after the operation, and showed a marked decrease in the systolic pressure dropping back to 150 at the end of five hours.

A young woman, Miss F., twenty-two years old, was admitted for a tonsillectomy and the usual procedure gone through with in the pre-operative treatment, a 90 mg. per kilo dose was administered to her. She went through the tonsillectomy without the avertin being supplemented with ether or gas, her pressure remaining about normal, but she slept for three days, voiding involuntarily. In this case I do not attribute the prolonged sleep to the dose of avertin, but I do attribute it to hysteria.

One other case which was not a surgical case, I would like to bring to your attention. A child two years old was brought into the hospital in convulsions due to some gastro-intestinal condition, having one convulsion after another. A small dose of avertin was administered, the child falling off into a deep sleep and all convulsions ceased. The child was removed from the hospital the next day apparently in a healthy condition after being administered a dose of castor oil.

My associate, Dr. George Martin, who has been administering all the avertin anesthetics, has come to the conclusion that 90 mg. per kilo is the proper dose to give in practically all cases. This, in the great majority of the cases, has to be supplemented with a little ether or gas. We find that the slowing of the pulse and the dropping of the blood pressure with a full dose of avertin is helped by the administering of ether. Ether has that stimulating effect upon the circulation which brings back a more firm heart-beat and, to a certain degree, elevates the blood-pressure.

I have not found avertin to cause any irritation of the rectum and I do not use milk or other solutions, using distilled water heated to the proper temperature.

I do not believe that avertin is injurious to the kidneys or liver, and I would not hesitate to use it in the case of nephritis or in jaundice, as I have used the drug in both conditions without any bad effects. I realize that this drug is more or less new and that in the future we, in all probability, will learn more from it through our experiences. My experience with the first 100 cases is limited and my knowledge of the use of this drug is not what I would like it to be, but the experience that I have had in the use of avertin has been very pleasing and gratifying to myself and also to the patients on whom I have had to operate, and who have had, previous to the use of avertin in their cases, ether anesthesia.

I have found that children tolerate the drug very well; in fact, better than adults. There are many emergency cases that enter the hospital with crushing injuries, who have received their injuries after a heavy meal; and, although no enema can be given due to the limited space of time in which you have to work, these cases stand up under avertin very well without the risk of post-operative pneumonia following ether anesthesia. Even without the enema, the avertin is readily absorbed, and I may say here, if given, should be given the night before and not the morning of the operation. I also order a grain and a half of luminal or five grains of veronal the night before the operation. This seems to have a quieting effect on the individual that night, and then half hour before operating a plain sixth of morphine is given hypodermically.

INTRAVENOUS UROGRAPHY WITH UROSELECTAN * (REPORT OF A CASE)

By L. E. SHREWSBURY, *M.D.*
Beckley, W. Va.

IN 1923 Rowntree and his co-workers of the Mayo Clinic were the first to attempt to visualize the urinary tract by means of the intravenous injection of a ten per cent solution of sodium iodide and also by the oral administration of that salt. The urinary bladder, and in some cases, the pelvis and ureter, could be visualized.

The following year Rosenstein and Von Linchenberg reported at the Urologic Congress in Berlin their results, repeating the work of Rowntree and his co-workers, with sodium iodide, but in conjunction with perirenal pneumoradiography.

Roseno was the first to achieve practical results by means of the intravenous use of a combination of sodium iodide and urea, called pyelognost.

According to some reports, it is stated that the substance employed by him is at times associated with reactions, giving rise to the suspicion that toxic substances are formed while it is being sterilized. The visualization of the urinary tract, however, is satisfactorily accomplished.

When a preparation having a lower iodine content and the sodium acetate group substituted for the methyl was furnished by Professor Binz, the clinically applicable and successful substance was finally obtained. This compound differs from the original only in the substitution of sodium acetate in place of the methyl group. It was fortunate that this preparation, introduced abroad as "uroselectan," proved to be free from all accompanying reactions, to have quite an extraordinary affinity for the kidney and urinary tract, and to be very soluble in water. These needs were therefore completely fulfilled and satisfactory urograms could now be obtained, as reported by Dr. Swick, at the Urologic Congress in Munich, in 1929.

The aim, all along, was to find a compound which was non-toxic, which, when introduced into the blood stream, would be excreted by the kidneys in sufficient concentration to cast a radiographic shadow, thereby visualizing the urinary tract.

Ureselectan contains forty-two per cent of organically combined iodine, is non-toxic, very soluble in water and neutral in its reaction. The iodine in the molecule exists in a stable organically-bound state. Neither in the injected solution nor in its excreted form is iodine present in ionized state. These facts, despite the relatively large quantity of iodine in the amount of this substance that can be administered with impunity, would seem to explain why iodism has never been observed. The tolerance for this substance is very great.

* Read before the Raleigh County Medical Society at Beckley on January 21, 1932.

The preparation of the solution for intravenous injection is very simple. Double distilled water should be used. While the contents of the original bottle (40 grams) are being slowly poured into 120 c.c. of water it should be stirred diligently. When completely dissolved, the solution should be filtered twice through a fine filter paper and boiled for twenty minutes, allowed to cool to body temperature (about 100 c.c. should remain) and injected intravenously. It has been found that the solution is fairly stable and may be kept in a refrigerator for forty-eight hours with very little impairment of its efficiency, although it is undoubtedly better to inject the fresh solution.

Dr. Swick now advises a larger dose, 60 grams, for the adult. With the increased dosage he has found no bad effects, but much better visualization.

The preparation of the patient for the intravenous injection is also simple. Castor oil should be given the previous night, to eliminate as much gas as possible in the intestinal tract, whether the intravenous or retrograde method is used. The patient should drink water freely the day previous to the injection. A flat picture should be taken before the injection. A blood chemistry should be made before, if convenient. The bladder should be emptied just prior to the injection.

The patient should have no fluids for two hours before, or during the injection of the compound. An added factor, which has improved the results as far as density, clarity and consistency of shadow are concerned, as advised by Dr. Swick, has been the application of a moderate degree of compression by means of an air inflated rubber balloon (basketball bladder) maintained over the urinary bladder region for from five to ten minutes prior to and during the taking of each picture.

Method of Injection.—Some use syringes, but the majority of doctors prefer and use the gravity method. Let run very slowly, allowing at least twenty minutes for the 100 c.c. to enter the blood stream. Some prefer to allow 50 c.c. to flow into one vein and the remainder in the opposite arm, but there seems to be no advantage gained by this procedure, and the majority of men place the whole 100 c.c. in the one vein.

The indications for intravenous urography are many, including those patients with obstruction at any point which makes for the prevention of the passage of the cystoscope. This would include stricture, double ureter, prostatic hypertrophy, severe bladder diseases, hemorrhages, ruptured kidneys, severe infections, epididymitis, fistula; in children and in very nervous adults. To determine renal prolapse or ureteral displacements, it should be of special value, as the ureteral catheter is not present to distort the ureter. It should reveal when a stricture *is* a stricture. In ureteral stone, it readily demonstrates whether the stone had caused a complete obstruction. This is a point of great value as an aid in determining whether the patient should be operated upon at once or delay is justifiable until the stone has progressed downward. In such cases the renal shadow on the affected side is much more clearly outlined than on the normal side; just as though the uraselectan had reached the kidney but that it was not being eliminated. You also fail to see the solution in the ureter below the obstruction.

Uroselectan can also be used as a medium for making pyelograms from below, diluting the standard solution (as used for intravenous injections) with equal parts of water, and inject it through the ureteral catheter to the pelvis of the kidney. The advantage of making pyelograms with this drug from below are that the pictures are beautifully clear cut, the solution is non-irritating, and there results practically no reaction from its use. The field of application of intravenous urography is evident whenever retrograde pyelography is dangerous or impossible for infections or mechanical reasons, and whenever these procedures in general are indicated. The method, aside from offering a bilateral urogram, is

also helpful in the presence of hematuria, in cases of implanted ureters, and in individuals in whom instrumentation is taxing and harmful.

Uroselectan clearly demonstrates two pelves or two ureters in a kidney. This is easy to understand, as the solution is excreted by the kidney it fills both pelves or both ureters, as the case may be, while the retrograde method may, and likely will, fail to show the true state of affairs in case of double pelves and ureters, as the catheter is only in one ureter and, therefore, one pelvis and one ureter is distended.

Uroselectan is not an infallible urological oracle, but rather a welcome addition to our diagnostic aramementarium.

Contra-indications to uroselectan would be all cases in which renal function is impaired to such a degree that excretion is seriously retarded or concentration hindered.

Patients with uremia or latent uremia do not lend themselves to the application of this method. It has been suggested that caution be exercised in thyrotoxicosis, pregnancy, active tuberculosis, severe circulatory disturbances and a dead kidney. When there is no kidney function uroselectan is not excreted and, therefore, a definite diagnosis of the pathology present can not be made. Uroselectan, however, does not give the accuracy and clearness of detail in filling defects and outline as does sodium iodide injected through the ureteral catheters. It also increases the shadow in case of stone. Moreover, uroselectan is expensive, (40 grams costing $6.00,) and three to five films and much time (thirty minutes to one and one-half hours) must be expended in each case.

Reaction.—In the great majority of cases there is but a slight reaction, but in some few cases reported there has been quite a severe reaction. Most all patients complain of pain at the site of injection, in the midarm or shoulder. Dr. Hartman reported a case in which the kidney was destroyed by tuberculosis, which developed a severe foreign proteid and iodid reaction, with giant uriticaria, edema of the bronchi, throat and eyelids, which subsided in about two hours. In other cases reported the patient complained of becoming dizzy, a sensation of warmth all over the body, itching, nausea, and a few cases of phlebitis, which appeared several days later, at the site of injection, have been reported. Occasionally there is severe thirst, also most patients have an urgent desire to micturate preceded by a bearing down sensation and heat over the bladder. Dr. Kretschmer reports a series of eighty-five cases in which he gave uroselectan to adults of both sexes and to children with no bad results, and he states it is non-toxic and non-irritating.

Prof. von Litchenberg reported a series of seven hundred cases recently, with no bad results with the exception of eight cases which developed phlebitis at the site of injection.

Excretion.—It is estimated that in normal patients ninety-five to ninety-six per cent of the compound is excreted by the kidneys and found in the urine, one to one and one-half per cent was found in the feces. That one hundred per cent iodine could not be found would indicate not that the remainder was stored some place in the body, but that the methods of detection were not sufficiently accurate. Ninety per cent is excreted in the first eight hours. The main excretions occur within the first hour, so that the most favorable time for taking pictures is thirty minutes after the injection.

A Plea for the Cystoscope.—While there is no doubt that the employment of uroselectan will prove of great value in selected cases, however, the great majority of urologists feel that cystoscopy and ureretal catherization will not decrease in importance, there still remains considerable information to be obtained from cystoscopy, with the actual visualization of the changes which occur in the mucosa of the bladder, secondary to pathology in the upper urinary tract. In fact, some diagnosis are almost entirely based

upon the impression one receives through observation of the bladder and the ureteric orifices, together with ureteral catherization, even before the pathologic alterations are demonstrable on the pyelogram. Also by the use of the cystoscope you can determine the source of blood, pus, organisms, also segregation of the urine, making stains for tubercle bacilli and guinea-pig tests, and to ascertain the differential function of the kidneys.

The time element should also be taken into consideration. It takes only a short time to pass a cystoscope and the introduction of a ureteral catheter. The pyelogram may be obtained immediately, regardless of kidney function.

Report of Case.—Mr. C. L. M., age 25 years, family history negative. Personal history, had ordinary diseases of childhood. Present complaint, had pains in back, low down, more on right side, for last five years, with little burning or voiding three weeks previous to examination. On June 27, 1931, I tried to introduce a 24 F. cystoscope with the intention of passing catheters to the kidneys and injecting sodium iodide to make a pyelogram, but as he had only about an 18 F. meatus it was impossible to introduce the cystoscope. He refused a meatotomy, and I then suggested using uroselectan, to which he agreed.

On July 18, 1931, 40 grams of uroselectan was prepared in the usual manner and 50 c.c. was introduced in the vein of one arm and 50 c.c. in the other arm, the gravity method being used in each case. Fifteen minutes were required in each 50 c.c. introduced. Patient complained of a general sensation of warmth all over the body, but more particularly in both testicles, also pain at site of injection and nausea if the solution was allowed to run very fast.

A flat picture was taken before the injection, which showed no abnormalities. Then a second picture was taken thirty minutes after injection, which shows the pelvis of both kidneys and ureters down to the pelvic bones fairly well. It also brings out the major calcies very good, but not the minor calices. The third picture, taken in one hour after injection, shows the solution in the bladder. The ureters and pelvis can hardly be made out, showing that in this picture the drug was eliminated almost altogether in one hour.

Neither of the pictures show any abnormality. The patient left the hospital in six hours after the injection feeling fine, and apparently none the worse off from his experience. The injection was given at 9:00 A.M. I saw him at 7:00 P.M. and at that time he had a reddish, mottled spot covering almost the whole of the glans penis, which he had noticed a few minutes before I saw him and which disappeared sometime during the night.

VITAMIN FALLACIES

"Vitamins are discussed, not only in scientific circles, but in popular books, magazines and daily newspapers. Their almost magic effect in minute quantities under certain experimental conditions has made it a temptation to dramatize and overdramatize. A wonderful opportunity is thus created to foist useless preparations, harmless in most cases, on a vitamin-conscious public. It is only natural that this is confused with the advice of nutritionists on correcting conditions that demand a consideration of foods," E. F. Kohman explains in his article, "Debunking the Vitamins" in the June *Hygeia*.

No one needs to fear being inadequately supplied with all the necessary elements of a complete diet, he adds. Eggs, milk, succulent vegetables and fruits have been designated the protective foods. Through scientific preservation and more general distribution of vegetables and fruits, such a diet is made accessible to every one. It has been demonstrated that commercial canning itself makes possible a constant and abundant supply of all those nutritive properties associated with freshly harvested vegetables and fruits.

Mineral elements, we know, also play a large part in the make-up of the diet. Yet no one knows how all these mineral elements function any more than how all the vitamins function.

FOCAL INFECTION FROM A DENTAL STANDPOINT *

By C. R. ADAMS, D.D.S.
Charleston, W. Va.

THE subject which was assigned to me for this evening is "Focal Infection from a Dental Standpoint." After careful examination of the various definitions for focal infection, I think this is the most definite.

Focal infection may be defined as a metastatic systemic or local condition due to infectious micro-organisms or their toxins, carried into the blood or lymph stream from a focus or foci.

A focus of infection is a localized or circumscribed area of tissue, containing pathogenic micro-organisms and may be either primary or secondary. A primary focus is the principal or first infected tissue area; a secondary focus or foci is a circumscribed tissue area invaded by pathogenic micro-organisms carried into the blood or lymph stream from the primary focus. This gives an explanation of those chronic conditions we term "focal infection," which present a steady progressive invalidism or an intermittency of symptoms due to varying degrees of bacteremia.

Dentistry can no longer be consisered a thing apart from medicine—one is essential to the other. The importance of the oral cavity, its diseases, pathology, and treatment have been impressed upon both the physician and the dentist. The laity as well has been made to realize that infected teeth and ill health are closely related.

The physician and dentist are working together to solve health problems and through this coöperation they are better serving society.

The dental profession should more fully appreciate the position of the physician's interest in the welfare of the patient and understand more fully the evil effects of focal infection and other mouth conditions as factors in systemic disturbances.

The dental profession is not in a position to attempt to diagnose general ailments or to endeavor to trace these conditions to the teeth. Nor is the physician in a position to diagnose oral conditions, those especially surrounding the teeth and their supporting structures.

The dentist, however, should be able to determine accurately and make an intelligent report as to all pathologic and contributing causes within the mouth when there is systemic trouble and, of more importance, he should *positively* be able to eliminate all oral sources of systemic disease.

A knowledge of the history of a medical case and a knowledge of the patient's physical condition is always necessary to the dentist, and in most cases intelligent dentistry and especially treatment and surgery, can not be accomplished without some knowledge of the patient's physical condition. It is, therefore, apparent that a closer coöperation of the dental and medical professions is necessary to correctly handle the problems that the effects of oral sepsis and other mouth disturbances have upon general health of the patient.

Oral infection may cause systemic disease by direct extension into adjacent structures or metastasis to distant parts of the body. Infection may spread from a tooth into the alveolar process producing a diffused osteomyelitis; into the soft tissues producing a cellulitis; or into the nearby lymph glands producing a lymphadenitis. The maxillary sinus is frequently infected from the upper molars and bicuspids, and in some cases the teeth have become infected from a sinus. A careful examination by the dentist should be advised in all cases of maxillary sinusitis that do not respond to treatment in a reasonable length of time. Occasionally a sinus thrombosis results from one direct extension upward of an acute dental infection. Rarely the bacteria entering the blood may multi-

* Presented before the Kanawha Medical Society at Charleston on January 5, 1932.

ply and produce a true septicemia. No discussion concerning the rôle of the dental focus in such conditions is needed. The relation is too apparent.

The subject of focal infection has received much attention in recent years. Much has been written and there is still diversity of opinion, but it is generally accepted that primary focal infection is responsible for most, if not all, secondary diseases of infectious nature. No less authority than Dr. Charles H. Mayo, of the Mayo Clinic, believes that eighty-five per cent of body ailments originate above the clavicles. To substantiate this statement further, Dr. Sterling V. Mead of Washington, D. C., a dental consultant, firmly believes that in ninety-five per cent of the cases of tooth infection it is possible to find evidence of one or all of the following complaints: general malaise, heart murmurs, eye trouble, myositis in back of neck, neuritis, arthritis, diseases of the kidney, nervous and mental diseases, acute appendicitis, diseases of the blood forming organs, cholecystitis, gastric and duodenal ulcer, herpes (shingles) or skin eruptions due to nerve involvement, thyroiditis, etc.

May I say here that no general diagnosis or thorough examination by the patient's physician is complete, without a radiographic examination of the oral cavity, and the use of all other modern means of supplementary tests, such as trans-illumination, vitality, etc.; nor is the dentist's examination complete without the physical examination made by the patient's physician.

Diligence in keeping pace with the progress of knowledge, bravery and enthusiasm in applying new knowledge to the welfare of patients are primal duties of both dentists and physicians.

The most outstanding health problem of the present and the future is not so much the corrective phase but the prevention of the disease. This can be accomplished best by intelligent coöperation of the physician and dentist.

THE COUNTY SECRETARY *

By G. R. MAXWELL, M.D.
Morgantown, W. Va.

THE Monongalia County Medical Society was organized almost thirty years ago. It has been one of the most active and aggressive societies in the state, and has always made its influence felt in local and state activities on behalf of organized medicine.

It had eleven charter members, five of whom are dead, two have moved away and their whereabouts unknown, and one has moved to Fairmont, thus leaving only three of the charter members among us, one of whom is inactive. We have just two of the original charter members still taking part in our meetings. So, of all the veterans of the charter days, these two remain; but their activities are as vigorous as they were thirty years ago. We always find them leading the others in the activities of the society.

In the early history of our society when the members were few and interest was small and the membership fees were smaller, and no secretary had a private secretary, the work devolved almost entirely on the secretary. In order to save time and expense he had printed the programs for the entire year and delivered them to each doctor in the society. He also had a nice card, about 8x10, printed and a ribbon to hang it on the wall. On this card was printed: "The Medical Society Meets the First and Third Tuesdays of Each Month at 8:00 P. M." This the secretary hung on each doctor's wall in front of his desk. This novel procedure took the place of the notices by mail and telephone and it worked well.

* Read before the Conference of Secretaries of the West Virginia State Medical Association at Charleston on January 18, 1932.

The secretary worked entirely without remuneration and paid for the printing out of his own pocket. I would not appreciate this kind of work, but the early men thus laid the foundation for our prosperous and influential society, and we appreciate the good work they did.

Since the Monongalia County Medical Society was formed it has held an important place in the Association's affairs. There probably has not been a state meeting at which the Monongalia Society has not been represented. It has probably furnished more attendants to the meetings than any other society. It has furnished four presidents, three of whom are living, and has taken an active and aggressive part in all the meetings. Of course, we have advantages that few societies have. The University is here and some of our most active members teach in the Medical School. There is the utmost harmony between our society and the faculty of the Medical School.

Another advantage we have that probably no other society has is that all our members, with the exception of three, can walk from their offices to the medical meeting in less than ten minutes. The meetings are held after office hours, thus allowing anyone that wants to attend to do so without undue loss of time.

Another advantage we enjoy that many societies do not is that we have no factions, and most of our members are especially friendly, and work untiringly together to promote the professional and personal welfare of the entire membership and the public at large. We surely have as harmonious a society as it is possible to have.

Our society is active in civic affairs. The city council and the county court seek our advice in all affairs relating to public health. Our society, though it is active, never shows officiousness toward the public officials, but we strive to show them what is for the best interests of the people at large without appearing to be dictatorial.

In this way the profession stands high with our public officials. For instance, we have rigid parking laws. It was quite aggravating to get detained at the office or bedside and come out and find a red tag on the car with a notice to appear before the city judge and receive a fine. The society sent a delegation before the city council, and the council made a ruling that the doctors could have unlimited parking time.

The society had a neat little tag prepared to hang in the car with the doctor's name, name of car, license number, and the official seal of the city on it. The police are instructed not to disturb a car so marked. There is the most friendly spirit existing between the police and the doctors which is appreciated on both sides.

The order of business adopted thirty years ago is still in the order of business.

1. Call to order.
2. Reading the minutes of the last meeting.
3. Unfinished business.
4. New business.
5. Clinical cases.
6. Papers and discussions.
7. Announcements.
8. Adjournment.

The most important official in a medical society is the secretary. The success or failure of a year depends largely on him. An inefficient man may be elected president, but if the secretary is on the job the year will go off smoothly.

No matter how efficient the president is if the secretary does not do his work properly the year will be full of hitches.

The secretary's job is not an easy one. He is the work horse of the society. I thought probably you would be interested in how our society is run.

We have a membership of forty-nine. In this respect, we have the advantage over most of the societies in the state in that all the members with the exception of two live in Morgantown. Five physicians in Monongalia County do not belong. Some of them can

not get in, others have allowed their dues to become delinquent.

The collection of dues probably interests us most now. I am starting on my sixth term as secretary. Every January 1 bills are mailed to all the members for the year. I find this helps, for most men like to have bills of what they owe so that when they make out checks the bill is frequently included. Then every meeting until April 1 I remind them that I am ready to receive dues. About the middle of March I write letters to those who have not paid, reminding them that on April 1 their JOURNAL stops and protection against malpractice ceases if their dues are not paid. Then a few days before the period is up I 'phone those who have not paid, asking them to write a check and I will send my secretary after it. With this method I get most of the dues in by April 1.

Another important point I have learned from experience—have all checks cashed before turning them over to the treasurer. We have received a few worthless checks that never have been made good, and the members have received their membership cards and their JOURNAL and the society is left holding the sack.

The Program Committee meets early in January and the programs for the entire year made out tentatively. We try to make the programs as interesting and varied as possible, concerning all branches of medicine, so that there will be programs during the year that everyone will enjoy. We have between fifty and sixty per cent of the speakers local men, while the others are out of town. We find the attendance is about as good for local speakers as for others. We think greater interest is shown by the members if they are made to feel that they are part of the society and that their help is needed to make the society a success.

Our meetings are held the first Tuesday in the month at 8:30 P. M. in the Junior High School library. Programs are printed and mailed out so the members receive them not later than Saturday morning. On Tuesday afternoon my secretary calls all the members and reminds them of the meeting that night. Our percentage of attendance is good.

Our June meeting consists of the report of the delegates to the State Convention and reports and demonstrations of clinical cases. Throughout the year men are encouraged to present interesting cases before the society.

Probably the most outstanding part of the programs is the reports of clinical cases. This always is entertaining and profitable. Generally it consists only of reports of interesting cases, cases that the most of us are interested in. It brings the actual experience of our neighbor practitioner graphically before us, and we appreciate the skill and technic of those in charge. Thus we acquire a more intimate knowledge of interesting cases right in our own neighborhood. For when one is to make a clinical report of a case, he looks up current literature and the latest books for all the interesting features of the case, and we all get the benefit of his studies. These clinical reports add zest to our meetings.

When we have patients brought into the meetings and we actually have a chance to see them, and make personal examinations of them, we are greatly benefited by this actual contact with the afflicted ones, reminding us of the days of medical schools and internships.

Many patients show an aversion to appear before the society to show their diseases or deformities, but they generally can be persuaded to come, so that other doctors may see them and may learn from them how to be of greater benefit to their other patients. In this way the interesting cases can be persuaded to attend the meetings.

Heart, anemic, lung, gastro-intestinal, hepatic, cancer, and traumatic cases can be induced to come in and let the other doctors see them. If they have been benefited by our treatment we ask them to come in and show us how they have improved, and thus aid the other doctors in helping people afflicted in the same way. If they have not been benefited by our treatment we suggest

that the other doctors present may offer some suggestions that would help them. We believe that the clinical feature of our meetings is probably appreciated as much as the scientific papers.

Very few of our men decline to read papers when asked. And papers delivered are all of scientific importance and generally are of practical and bedside value. Considering the splendid value of these papers our attendance should be more nearly one hundred per cent.

It is remarkable how thoroughly our younger men go into the scientific papers they prepare for our meetings. The younger men are probably no brighter and intelligent than the older ones, but their preliminary and technical training has been of a much higher class and they are competent to discuss the subjects before them in a truly scientific and thorough manner. They are greatly appreciated by the older men and when a consultant is wanted the younger men are generally called. The public has found out that the younger men have been highly trained in modern methods and can be relied upon to do good work.

July of every year we have a joint meeting with the Preston County Medical Society at Hopemont. This is one of the best meetings of the year, and is largely attended by members of both societies, and members from adjoining societies are invited, so we have a large and enthusiastic attendance.

We furnish the speaker, who is generally an out-of-the-state man and who has a national reputation. He reads a paper on some phase of tuberculosis. These papers always appear in the JOURNAL and should be thoroughly appreciated by all the doctors of the state. After the program, a buffet luncheon is served at the home of the superintendent. This is probably the most highly beneficial of any meeting of the year, and all leave Hopemont with a feeling of reluctance and regret.

I am glad to be here today to add my bit to the advancement of organized medicine.

CASE REPORTS

SURGICAL RISK ACCOMPANYING VON RECKLINGHAUSEN'S DISEASE

By HOWARD T. PHILLIPS, M.D.,
LOUIS B. FERRI, M.D.,
WM. J. MORGINSON, M.D.,
Wheeling, W. Va.

A patient exhibiting von Recklinghausen's Disease should always be approached cautiously by the surgeon because of the potential surgical risk accompanying this syndrome. This seems doubly important since surgical intervention is practically the only remedy in the extensive fibromatous stage of the disease.

A brief discussion of von Recklinghausen's Disease will be followed by a case history exemplifying our theme.

Symptoms.—von Recklinghausen's Disease is a complex condition caused by neuromata or neurofibromata which may involve practically any structure of the body. Due to its most common clinical manifestation, it is sometimes known as "generalized neurofibromatosis," but this term gives undue emphasis to one phase, fibromatous cutaneous growths, and, at present, until some better name is coined, the multiplicity of symptoms seem best designated by the name of their pioneer investigator.(2) Since a comprehensive definition seems impossible, a listing of the principal symptoms will furnish the best review of this bizarre and complicated disease. These are given according to the incidence of their occurrence.

The most common symptom is cutaneous and subcutaneous tumors which vary in size and are freely movable. They may range from a single, small lesion to multi-sized fibromatous masses covering the entire body. These tumors may also appear in any part of the gastro-intestinal tract. The orbit and optic nerves are sometimes involved. These freely movable tumors are generally con-

sidered fibromata. Some authors consider them neurofibromata and, when extending down the arm, they have been considered fibromyxomata.(1)(6)

Other tumors, or true neuromas, are deep seated, freely movable from side to side but not up and down, with radiating pain being produced when they are pulled. The central nervous system may be involved, sometimes when there are no peripheral lesions. They most frequently affect the cerebellopontile angle with resulting symptoms indicating patholoby of the abducens, facial, auditory, glossopharyngeal and vagus nerves, although sensory and motor disturbances are rare. The neuromas may appear in and along any nerve of the body.(1)

Next in the order of frequency to the tumor growths are i r r e g u l a r hyperpigmented blotches ranging from freckle-like spots to large areas often resembling birthmarks. They generally accompany the tumors but may appear alone.

The sympathetic-parasympathetic abnormalities and the closely associated endocrine disturbances indicates either a primary condition of the sympathetic and vagi nerves with reflex signs and symptoms of endocrine disorders or direct endocrine vegetative disorders. This disfunction of the internal secretory glands is a common manifestation of von Recklinghausen's Disease and resembles the insufficiency of the suprarenals in Addison's Disease. This seems to explain the sensory disorders of arthralgic or rheumatoid pains, formications and hyperesthesias; the motor disorders of vertigoes, motor incoördinations, diminution of muscular force, etc.; the psychic symptoms of mental retardation, apathy, hesitation of speech, loss of memory, melancholy, imbecility and idiocy; and defects of development, faulty nutrition, digestive complaints, glycosuria, albuminuria, etc.(2) Involvement of the vagi and sympathetics and their effect on the cardiovascular system, and, in addition, a tendency towards a generally lowered metabolism, probably explains the shock accompanying any surgery on these patients.

Etiology.—The specific etiology of von Recklinghausen's Disease, as well as the origin of fibromas, is unknown. Regarding fibromas, Ewing considers many of them as arising from misplaced islands of tissue according to Cohnheim's theory; others may depend on local irritation and disturbances in enutration and another group, as in von Recklinghausen's Disease, shows a definite congenital and hereditary tendency.(2)(3). Von Recklinghausen shows that the tumors in

FIG. 1. Typical case of von Recklinghausen's Disease showing many fibromatous lesions.

neurofibromatosis arise from cutaneous nerve filiments.(2) One theory postulates that the general syndrome should be grouped under endocrine-sympathetic dystrophies having a constitutional factor which may be hereditary and an accidental factor as trauma, infections, etc., which, through its effects on the endocrin-sympathetic system, acts as a stimulus

to embroynal elements of the sympathetic system and the skin.(2)

Prognosis and Treatment.—The disease is incurable, although the patients generally go along for years with little change in their conditions. Surgery is indicated for all unsightly tumors and those interfering with mobility. Occasionally the pain produced by the involvement of a peripherial nerve necessitates the excision of a tumor. Small tumors over the face and arms may be removed under local anesthesia by excision or the desiccating needle but their base, extending into the subcutaneous tissue, must be removed to prevent recurrence.

FIG. 2. von Recklinghausen's Disease showing fibromatosis, pigmentation and pendulous mass before excision.

Report of Case.—Mrs. M. A., aged 30, white, a housewife, since she was three years old noticed the gradual development of nodules and pigmented areas varying greatly in size and shape. Some of the nodules attained the size of walnuts and the largest pigmented macule was five inches in diameter. A large, pendulous tumor, extending from the shoulder to the wrist, was situated on the ulnar and ventral surfaces of the left arm. This non-painful mass about equaled the size of the arm and was a source of great annoyance to the patient on account of its disfigurement and the odor from the sebaceous material which it exuded. (Fig. 2.)

The patient and her family clearly exemplified several hereditary features of von Recklinghausen's Disease. Her mother showed small nodules scattered over the body; a brother and sister showed corresponding fibromatous growths and pigmented areas. The mentality and morality of the entire family was definitely subnormal. (Fig. 3.) None were able to advance beyond the sixth grade and one girl had an illegitimate child while in that grade. Their mentality, conversation and actions were not above ten years of age. All were suspicious, garrulous, belligerant, and were entirely devoid of coöperation even in measures intended for their own welfare.

OPERATION.—Notwithstanding the known surgical risk of these patients, because of the marked deformity produced by the pendulous, foul-smelling mass, its excision seemed advisable. Dr. Louis B. Farri removed the growth under ether anesthesia.

Incisions were started in the region of the deltoid muscle and extended downwards on either side of the growth. It was disected to the facia and stripped from above downwards, hemostasis being effected step by step. When the growth had been removed as far as the elbow, skin sutures were begun above, silk-worm gut being used. About two inches above the elbow, it was no longer possible to approximate the skin. The balance of the growth was removed from the flexor surface of the forearm to the thenar eminence. The skin could not be approximated from above the elbow to the hand, due to the width of the exposed surfaces, and we were ready to immediately perform a skin graft when the patient experienced a severe shock. The ex-

posed area was covered with a large piece of folded gauze and the edges of the wound pulled together as closely as possible with silk-worm sutures.

Seven hundred and fifty c.c. of 10% glucose and 15 min. of adrenalin were given intravenously, while the patient was on the table; 7.5 grains of caffein sodium benzoate were given subcutaneously. The shock was successfully combated but the patient remained very weak during the afternoon. During the night, the patient again went into shock and the above treatment was repeated.

FIG. 3. Family group, mother and two daughters, exhibiting various symptoms of von Recklinghausen's Disease. Central figure shows same patient as in Fig. 2 after surgical intervention.

Four days later, under operating room aseptsis, the dressings were changed. No antiseptics were applied. Dressings were repeated on the sixth and the ninth days; the condition of the wound remained very satisfactory and the patient improved rapidly.

Two weeks following the removal of the fibroma, a skin graft was performed. The exposed area to be covered was about eighteen inches in length and three and one-half inches in width at its widest portion. The entire area was covered by the Thiersch graft technique. Final results were excellent; there was no infection and the entire graft was implanted. (Fig. 3.)

The patient was discharged entirely recovered four weeks following admission.

PATHOLOGICAL REPORT.—The excised tumor, after a gross and microscopial examination by Dr. W. T. McClure, was diagnosed diffuse fibrosis of the skin.

Conclusions.—1. A synopsis of von Recklinghausen's Disease, culled from the English literature since 1910, is discussed with reference to the symptoms, etiology, prognosis and treatment of the syndrome.

2. A case report showing a typical example of von Recklinghausen's Disease in its clinical manifestations is presented.

3. Emphasis is directed towards surgical shock which accompanies operations on these patients. Since the only adequate treatment of these tumors is surgical, it seems important that surgeons should be cognizant of this complication.

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KELLOGG FOUNDATION

With the purpose of becoming actively engaged in child welfare and of developing a desirable and worthy program, W. K. Kellogg made possible the creation of the W. K. Kellogg Foundation. He gave large sums of money for the establishment of the foundation and specified that the gift would be augmented from time to time by further donations if the project proved to be worth while, Dr. Stuart Pritchard explains in the June *Hygeia.*

SQUAMOUS CELL CARCINOMA OF GLANS PENIS

By R. S. WIDMEYER, M.D.
Parkersburg, W. Va.

On May 6, 1931, I had occasion to see Mr. W. G. L., white male, age 60. He was complaining of frequent and painful urination with some discharge from the penis. Family history was essentially negative. Past history: Had the usual childhood diseases, several attacks of "kidney trouble" in the past five years and a more or less frequent discharge from the penis at all times.

My physical examination revealed a well developed male, white, age 60, with a very ruddy complexion and highly excitable over the least symptom. The physical examination was negative except for the following findings: Blood pressure—systolic 178; diastolic 90. The entire glans penis was hidden under a tight prepuce with a pinpoint opening through which the patient voided for years. The prepuce could not be loosened as it was very adherent. There was a milky discharge oozing from this opening. There was slight swelling and tenderness of the part. There were no glandular enlargements felt at any location.

The patient was dieted and given urinary antiseptics and the general condition improved very much. He was advised to have a dorsal slit done but this was refused. I saw him from time to time to check his general condition until the last of October, 1931. He came again to my office in January, 1932, and consented to have the dorsal slit done. He was removed to the hospital and under gas anesthesia was operated and the glans penis exposed with a great amount of difficulty due to the thick adhesions. Over the anterior surface of the glans penis was a mass which resembled a chronic inflammatory mass of tissue. The patient was discharged from the hospital the following day. His condition improved very much but the mass on the anterior surface of the glans penis did not respond as I thought it should.

In February I finally persuaded him to go to Dr. Howard Philips of Wheeling, West Virginia. There he was diagnosed as a carcinoma of the glans penis and operation advised at once. He finally consented to operation and on March 25, 1932, a partial amputation of the penis was done under a general anesthetic. The flap method was used and the uretha, after having been dissected well back, was brought through the skin on the posterior part of the stump and anchored. The patient had to be catheterized only once following the operation. He made an uneventful recovery, has gained back his normal condition, and has shown no signs of any involvement at any distant places. The pathological report showed a squamous cell carcinoma of the glans penis not involving the shaft. The stump is healed at the present time and there are no evidences of any inguinal glandular involvement.

220 Eighth Street.

PIONEER OF MEDICINE

"The glamour surrounding Charcot in his lifetime obscured the true value of his work and of the man himself. . . . It is one of life's little ironies that it was his faulty work which, at the time, brought him world-wide fame and patients from every class of society, whereas his enduring, pioneer work was of such a highly technical character that none but specialists in his own field could appreciate its value." So writes Dr. Claude Lillingston in another of his word portraits of "Pioneers of Medicine" in the June *Hygeia*.

In his identification of a large group of nervous ailments with definite changes in the brain and spinal cord, Charcot attained scholarly achievement which assured him a permanent place in the ranks of great pioneers of medicine.

In the Salpètrière, a French hospital, Charcot was tossed more or less by chance to care for the insane, the epileptic and the subjects of hysteria. Such an ill-assorted crowd! Charcot had to forge new weapons, evolve new principles and new tests in an effort to do justice to his patients.

Democratic in principles, Charcot, on one occasion when a princess demanded preferential treatment, exclaimed: "This stranger does not seem to know that we have taken the Bastille."

SOCIAL INSURANCE *

By EDWARD H. OCHSNER
Cleveland, Ohio

In preceding articles Social Insurance as a whole has been considered. In this and subsequent articles our observations will deal more particularly with Compulsory Health Insurance, one phase of Social Insurance. The chief danger to medical progress and efficient medical service to the American public comes from that small group who wish to establish lay bureaucratic control over the private practitioners of medicine and dentistry.

The state exercises a legitimate and proper function in public hygiene and sanitation, the teaching of personal hygiene in schools and colleges, in the medical care of paupers, criminals, and the indigent in general, but whenever and wherever it has entered into the private practice of medicine it has always resulted in inefficiency. Even in institutional work, with the possible exception of university clinics, the medical service rendered by the government is rarely excellent or even good, nearly always mediocre and often times even worse.

The health, happiness, prosperity, and efficiency of the citizenship of any nation depends more upon the integrity, ability, unselfishness, and enthusiasm of the medical and dental professions and upon the quality of medical and dental services rendered to the people than upon any one other factor. Any change in the practice of medicine and dentistry which will in any way hinder these professions from giving their best services will eventually react unfavorably upon the whole nation. That state medicine and compulsory health insurance actually will and does lower the general quality of medical and dental services is supported by reason and experience. While it may level up a little from the bottom it unquestionably levels down from the top and it is this leveling down that will surely stop medical progress.

Medical progress depends not so much upon the rank and file of the profession as upon occasional great men with vision. If we unduly hamper these great medical minds, medical progress must cease. The quality of medical services received by the people in general depends in large measure upon the quality of teaching which the rank and file of the profession receive and upon the enthusiasm and the ideals which are instilled into them by their teachers. Men of great ability can do their best work only if absolutely free, and a physician under law bureaucratic control never is entirely free. Andrew Carnegie, one of the most successful men of modern times in the best sense of that word, makes the following statement in his Autobiography: "Thereafter I never worked for a salary. A man must necessarily occupy a narrow field who is at the beck and call of others."

One of the continually recurring misstatements in the compulsory health insurance propaganda is that it encourages personal hygiene and consequently disease prevention. Nothing could be farther from the actual facts. Which person is more likely to take care of his teeth—the one who gets his dental services free, or the one who has to pay for it out of his own pocket? Those who claim the former just do not know human nature.

One of the chief causes of wonder of the Germans during the World War was the splendid condition of the teeth of the American soldiers as against the almost universally poor teeth of the Germans. Why this great difference? The chief and principal reason is that American citizens have their teeth taken care of by private dentists who take a very personal interest in each individual patient. Most American dentists and physicians are spending much of their time instructing their patients in general and oral hygiene. Contrast this with the work of the Krankenkasse physician of Germany who asks his patient one or two questions, then reaches into a file, hands his a typewritten prescription and gets rid of him just as quickly as he can and as he must, if he is to see fifty patients in an afternoon office period of two hours; and this he is by force of necessity compelled to do if he is to make a living for himself and his family at twelve cents an office consultation. Then again the claim is made that compulsory health insurance examinations are more thorough. This, too, is a statement contrary to fact and to reason when one realizes that the sort of office consultation above described gives the physician the same

* This is the sixth of a series of articles on Social Insurance by Dr. Ochsner.

pay as a thorough physicial examination does. No man can afford to make a careful, painstaking examination for twelve cents—not even in Germany, where living expenses are almost as high as in this country. One "Krankankasse" physician in Berlin told me personally that he made twenty-three house calls in four and one-half hours or at an average rate of one in a little less than twelve minutes, driving from house to house, going up from one to four flights of stairs each time, examining a patient and prescribing for him.

Brend states that in England the average time spent by panel physicians in making a diagnosis is from three to four minutes. Another English writer in comemnting on the above facts rightly observes that these are not abuses of compulsory health insurance but inherent faults of the system.

We have all repeatedly seen and heard the statement that seventy per cent of the American people —namely, the low and moderate income class— are not getting adequate and efficient medical service. Where those who make this statement get their statistics no one has ever been able to find out. The fact is that there are no statistics available on this point. From this it must be evident that the only place they can get these figures is from the depths of their fertile imaginations.

If we stop to investigate the source of these statements, we invariably find that they emanate from two classes of individuals—namely, a certain type of ultra medical specialist whose only experience is or has been with the extremely rich whom he charges fancy, exorbitant fees and with paupers whom he treats in charity hospitals. As a consequence he has had no personal experience with patients with moderate incomes and has no right to express an opinion on this subject. The other class who repeat these figures are usually persons who never have had personal experience with the practice of medicine and hence their opinions are practically worthless.

I maintain that the poorer classes of patients get better service in this country than they do in those countries of the world that have compulsory health insurance and that their medical requirements are at least as efficiently met as are their food, clothing and particularly housing requirements. This phase of the problem is an economic one and can not be solved by a palliative such as social insurance is.

(The Effect of Compulsory Insurance on the Quality of Medical Service will be further discussed in the next article.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

Nothing has done more to formulate orderly conceptions out of the confusion of phthisis than Koch's discovery of the tubercle bacillus. To Laennec we owe our classified knowledge of the diverse pathological forms tuberculosis may take; to Virchow we pay tribute for his logical, mechanistic interpretation of tissue changes in disease; to numerous other workers we are indebted for valuable contributions to knowledge. But Koch gave us the Rosetta stone—the key which enables us to translate the life story of the White Plague. That was fifty years ago. Since that time ardent students have been laboring to decipher the details. We are confidently expecting the conquest of the old enemy. Koch's contribution, however, was more than the discovery of a germ. He also put precision into the new and still haphazard science of bacteriology. He invented apparatus, adapted methods of others, and established principles, which made of microbe hunting the exact science of bacteriology. To what qualities of this unpretentious doctor may we credit that achievement? Allen K. Krause, in his foreword to Pinner's recent translation of Koch's original announcement, attributes it to the homely quality of patience—patience exalted to genius.

THE GENIUS OF KOCH

Early in 1876 Koch was lured away from a country practice in the village of Woolstein to the University of Breslau, there to disclose the life history of the anthrax bacillus and to open up the study of bacteria, work with which, by Pasteur, was stirring the medical world. Five years later Koch found himself directing a new science at the Imperial Health Bureau in Berlin, fully equipped for research. Soon after the cause and nature of anthrax had been discovered, came the identification of the gonococcus, pneumonococcus and the

typhoid bacillus. Smear-preparations, staining and plate-isolation methods had been devised. Ehrlich was experimenting with aniline dyes, and Koch had taken these over into bacteriology.

Koch began the search for the cause of tuberculosis in 1881. He stained known tuberculous tissue with methylene-blue and saw—nothing; at least no germs. But he "fortified" the stain with potash and then he saw within the background of tissue, certain fine blue streaks that he felt sure were "germs". That was the first step; counter-staining with Bismarck-brown was a mere detail to be worked out later.

The next step demanded the separation from the morbid tissue of the extrinsic blue streaks; that is, the isolation of the germ. Here he struck another snag. Cultivation on a solid medium was necessary. Gelatine, the good old stand-by for ordinary germs would not work. But Koch was an adapter, never hesitating to use methods of other men. Tyndall, a British physicist, interested in the age-long controversy of spontaneous generation, had exposed surfaces of coagulated serum to high altitudes in the Alps in order to catch the minutest particles of living matter. There can be no doubt that when the gelatine medium failed him, Koch lost no time in "borrowing" Tyndall's medium. Again he met with success. Inoculated surfaces displayed minute points of roughening. With a platinum needle, he transferred a bit of the matter to a slide, made a smear, stained it and then saw the gracile blue rod-like forms, which he had so often before seen in tuberculous products. The continuance of the original pure culture by repeated transferrence to fresh media was easily accomplished and carried out far enough to satisfy the most severe critic.

But would these artificially cultured germs actually produce tuberculosis in animal tissues? To prove that was the third step. In his paper he described accurately and without unnecessary detail the procedures and results which proved the virulence and specific effect of those first tubercle bacilli. He cited his experiments on animals with such surety that no skeptic could further doubt. And finally he succeeded in finding again the identical tubercle bacilli in the artificially produced tubercles. The chain of evidence was complete.

Koch's Proof Impregnable.—Koch presented his first announcement before the Berlin Physiological Society on March 24, 1882. Why a physiological, rather than, say, a pathological society or an organization for infectious diseases or internal medicine?

"The reason is known," says Krause. "It sprang from Virchow's attitude on phthisis and its nature. The dean of cellular pathology, and indeed of world medicine, was then in no mood to listen to proof that consumption, tuberculosis, scrofulosis, *Perlsucht,* were the product of essentially one and the same specific agent;—much less was he ready to lend a hand toward encouraging heresy aimed at dogma that, more than anyone on earth, he himself had formulated and imposed upon medical thought. For thirty years and more he had ingrained the latter with the duality of phthisis and the nonspecificity of consumption and tuberculosis, which must, according to him, be regarded as two separate, though commonly associated, morbid processes."

Koch spoke his piece under odd auspices. Every hearer speculated on what Virchow would say. But in Koch's impregnable argument he could find no flow. The Chairman called for discussion. There was none. So spellbound was the audience that they even failed to applaud. For the first time in the history of the Society no one arose to offer at least a perfunctory comment.

The discovery of the tubercle bacillus marked the pinnacle of Koch's career. By adopting and adapting methods he had put into everyone's hands a method of simplicity and accuracy applicable to the search for the causes of infectious disease to no end. "Within a few years Koch had snatched the vast hidden world of bacteriology from the 'Chaos' to which hopeless Professor Cohn had once consigned them."

Scientific workers have marvelled at the enormous task Koch performed in so short a time. It was necessary for him to spend time in trial of his older standard methods before discarding them. Moreover, as we now know, the tubercle bacillus is one of the slowest-growing of bacteria. With an experience of years behind him, Koch had never come across a germ that would not become visible to the naked eye within two or three days after the implantation of the material within the culture tube. At the end of the first week his inoculated tubes remained unchanged. Twenty days passed before there was the least sign of growth.

In its staining qualities, too, the tubercle bacillus is different from other bacilli known to Koch. He did not give up when the ordinary methods

employed at that time failed but so modified the dye that it did penetrate the bacillus he was hunting for.

Was Koch a genius? Like Edison he was a persistent experimenter. An active imagination suggested the objective and by repeated trial and error he found the way. He never hesitated to use and adapt the methods of others. He was ingenious in inventing methods of his own. But primarily his was the genius of patient waiting. Though past experience gave him no justification for waiting, he persisted in his heart-breaking vigil and in waiting, won out.

The Aetiology of Tuberculosis—Doc or Robert Koch—Translation by B. and M. Pinner.—*Amer. Rev. of Tuberc.*—March, 1932.

Koch's Original Paper Translated.—Koch's original paper "Die Aetiologie der Tuberkulose" was published in German a few weeks after the historic meeting of the Physiological Society. The better-known paper under the same title did not appear until 1884 and this was a greatly expanded dissertation on the tubercle bacillus. The fiftieth anniversary of the discovery of the bacillus prompted Dr. and Mrs. Max Pinner to make an English translation of the original essay. This was published in the March, 1932, American Review of Tuberculosis, and, together with illustrations and a foreword by Allen K. Krause (from which the above abstracts have been derived) was reprinted in attractive booklet form. This booklet may be obtained through tuberculosis associations.

ANTI-MEDICAL CRITICISM

That there are straws in the wind which seem to indicate a change in attitude on the part of the public towards the medical profession; that the recent wave of criticism with its numerous complaints is now being supplanted by a tendency to weigh more carefully the service being rendered by the profession, with the net result that a more wholesome appreciation of doctors is developing, is the opinion of some writers.

Undoubtedly what those writers mean is that a change has taken place in the sentiment expressed in recent articles published in lay periodicals on medical subjects, and that the medical profession is beginning to get more nearly a 50-50 break in the more recent published comments dealing with health and medical topics.

The thoughtful and informed citizen has been, and still is, in sympathy with scientific medical progress, and still has confidence in the qualified, competent and ethical medical practitioner, despite the purported increase in the clientele of the medical quacks, the cultists and all the rest of the pseudo-scientific practitioners.

What has caused misgivings and created alarm in the ranks of the medical profession has been the attempts on the part of believers in fanatical and socialistic theories to destroy public confidence in the profession through their contributions to the lay press.

Furthermore, it has been anything but comforting to the hard-working practicing physician to note some of the questionable sentiments expressed publicly by certain well-known colleagues, prompted by a desire for publicity, and to discover later that these comments have been used as damaging ammunition by the self-appointed medical reformers and critics, in their destructive campaign against scientific medicine.

If the new "straws in the wind" indicate that the lay press has arrived at the conclusion that the medical profession after all is worth preserving and that those who have been agitating radical and unsound changes, in the medical set-up in this country, have tired of their efforts, admitting they have failed to sway public opinion against the medical practitioner, then there is reason to feel encouraged about the future.

That the present let-up in public attacks on the profession is merely the calm before another storm has been suggested.

Regardless of what may be the reason for the present slump in the mud-slinging activities of its foes, the medical profession, through organized medicine, must carry on as before, persistently aiming for a continued development of better understanding and greater friendliness between the profession and the public; preparing to meet future issues as they arise; assisting its members to be of greater service and value to their patients, and militantly denouncing those who would make the doctor a mere hireling or who attempt to coerce the public into adopting false, alluring but destructice quackery.

The fanatic, the agitator, the theorist reformer, the radical, and all the rest of the breeds that make it a business to stir up public discontent seldom know when they are licked—if they are—so there is every reason to believe that the armistice of the present should be regarded as a challenge to greater initiative and energy on the part of the medical profession in the future.—*Ohio State Medical Journal.*

PRESIDENT'S PAGE

EVERY INDICATION points to a record attendance this month at our annual meeting at Parkersburg, June 21-23.

Several subjects of vital interest to every physician in the state will be freely discussed during this session. Resolutions will be offered, attempting to clarify and regulate contract practice. Please note that I say to control it, not to abolish it. There is no substitute for this work in certain types of industry, especially when applied to local physicians at the mines or similar plants. There is no excuse, however, for the existence of list or contract hospitals; many of them built on a foundation of selfishness and operated on a basis of commercialism for profit.

Resolutions will be offered also, attempting to change our state laws taking the care of the sick and unfortunate wards of the state out of the hands of politicians. The deplorable conditions in some of our state institutions are a challenge that our profession can not ignore.

May I remind you that many members, who are not delegates, feel that they are neither wanted nor welcome at the meetings of the House of Delegates. As presiding officer of that body for the Parkersburg meeting, I wish to extend to each member of our Association a cordial invitation to attend whenever possible. Delegates only may vote, but members, by attending, may become familiar with the many problems confronting their officers, and also be posted on pending legislation. When they return home, they can discuss these problems with their legislators and save our Legislative Committee and Executive Secretary many trying hours and much strenuous work.

The scientific side of our program has never been excelled. The committees responsible have coöperated to the fullest extent and are presenting to you a group of essayists, published elsewhere in this issue, composed of men who would grace with honor a program of any national association. We are proud to have such distinguished guests and extend to them a hearty welcome. We are equally as proud of our own members who will appear on the program.

You will note that the sectional meetings have been changed. They will be held Thursday morning, the 23rd. The problem of getting a good attendance at these meetings has been the subject of much debate. This year, some of the papers to be read before the sectional meetings are among the best on the entire program. We should show our appreciation by remaining over to hear them. No greater humiliation can be experienced than for our sectional officers to have a mere handful of physicians present to hear a distinguished guest. These meetings will close before noon Thursday, giving each one ample time to drive home that day. Let's all go to Parkersburg with a determination to remain until the close. If you will do this, your officers will be very grateful.

Albert H. Hoge

President.

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THE PARKERSBURG MEETING

Friends, Romans, Countrymen!

The sixty-fifth annual meeting of the West Virginia State Medical Association, to be held at Parkersburg on June 21-23, promises to be one of the most successful and best attended sessions ever held in this state, according to present indications. In spite of hard times and poor collections, word has come from practically every component county society that large and interested delegations would be on hand.

The doctors in Parkersburg have left no stone unturned in order to do a good job of entertaining the visiting members. Under the guidance of Dr. George Jeffers, general chairman of all convention committees, efforts are now being made to secure one of the large Ohio River steamers for the convention dance on the evening of June 22. Negotiations are now under way with boat officials of Pittsburgh. In the event that a boat cannot be secured, arrangements have already been made to hold the dance in the beautiful country club on the outskirts of Parkersburg.

The convention program, which is published in this issue of the JOURNAL, leaves little to be desired. The array of out-of-state essayists, headed by Dr. Dean Lewis, President-elect of the American Medical Association, includes many of the leading physicians and surgeons of this country. The essayists selected by the Committee on Scientific Work from our own membership are, as usual, men of attainment and ability who are expected to contribute no small share to a successful scientific session.

The JOURNAL wishes to take this opportunity to extend its best wishes for a happy and successful meeting at Parkersburg and to urge every member of the Association to be in attendance. Many matters of economic, as well as scientific, interest are expected to come up, many attractive entertainment features have been arranged, a hearty welcome is assured, and everything bids fair for a great gathering.

More and more are the doctors of West Virginia realizing the friendly value of rubbing elbows and mingling with their fellow practitioners from their own state. That is one reason, among many, why the Parkersburg session is bound to be a success.

A LOST OPPORTUNITY

Mister, Mister, don't tax me.
Tax that man behind that tree!

This little couplet that hearkens back to boyhood days was called to memory once again at the New Orleans meeting of the American Medical Association when, on May 12, the house of delegates passed a resolution protesting against cutting down the medical personnel of the United States Army.

The resolution pointed out that the plan of retrenchment in connection with reducing government expenditures called for a reduction in the number of commissioned officers in the army, including medical as well as military experts. This resolution of protest was presented on May 10 and it was carried, without discussion, two days later.

It is rare, indeed, when this JOURNAL feels called upon to differ with the policies or actions of the American Medical Association or its governing body. On this occasion, however, we feel that the house of delegates lost a golden opportunity to take the lead in

the national pursuit of reduced taxes and to set an example of sincerity and altruism for every other professional organization to follow.

Unquestionably the doctors of America, like everyone else, would like to see a drastic reduction in governmental expenditures. Rumblings of depression and hard times were heard on every hand at the New Orleans meeting. The argument for tax reduction is one of the objections always raised by the American Medical Association in fighting the Jones-Cooper (formerly the Shepherd-Towner) bill. Yet when the proposed reduction in government expenses began to approach the door of organized medicine, the A.M.A. house of delegates retailated with a resolution which exclaimed, in substance, "*Mister, Mister, don't tax me. Tax that man behind that tree.*"

How much happier and wiser it would have been had the house of delegates of the great American Medical Association come forward with a friendly gesture of helpfulness and coöperation toward those who are striving to cut down the cost of operating the government of the United States. We talk on all sides of the necessity of promoting a more friendly relationship between the medical profession and the lay public. How warmly gratifying it would have been to the lay public if the A.M.A. had stepped forward at New Orleans and shouldered its own responsibility with dignity and decorum. Instead, the issue was met with a hostile "vigorous protest."

This JOURNAL, like the A.M.A. house of delegates, deplores the necessity of cutting down the medical personnel of the United States Army. But if that is a part of the general scheme, however slight it might be, we should not find ourselves in the rôle of hecklers.

CHAIN STORE MEDICINE

Members of the medical profession were no doubt astonished to learn from the April 30, 1932, issue of the Journal of the American Medical Association that Montgomery Ward and Company had launched a "new professional service" to its customers in the nature of a mail order urine analysis.

After calling attention to the necessity of an analysis of the urine every ninety days, the Montgomery Ward catalogue offered "the services of experts who are specialists in this particular branch of medical work." The customer was instructed to use the regular order blank found in the catalogue, and to send $1.50 with the order.

Acting for the American Medical Association, five persons sent orders to Montgomery Ward and Company. In due time reports were received from the Universal Research Laboratories of Minneapolis, H. W. Darby, M.D., Medical Director. The reports from the official Montgomery Ward laboratory differed considerably from previous analyses made by trained laboratory pathologists. In addition the A.M.A. Bureau of Investigation reported some very unsavory activities of Dr. Darby in past years, including the report of an indictment in 1918 for selling habit-forming drugs.

As we stated above, this new mail order service was reported by the A.M.A. Journal on April 30, 1932. On May 21, 1932, the A.M.A. Journal reported that Montgomery Ward and Company had withdrawn its laboratory service. The letter of withdrawal read in part: "Upon careful investigation we found that their (The American Medical Association) position in the matter was in large part justifiable . . . we have discontinued the service, and are accepting no further orders."

Such experiences are all in a day's work with the parent of organized medicine. The Montogmery Ward incident is just one more example of what can be accomplished by a united profession. The voice of the American Medical Association is the voice of you, and you, and you.

COUNTY SOCIETY NEWS

CENTRAL TRI-STATE

A most interesting meeting of the Central Tri-State Medical Society was held at Charleston on the afternoon and evening of May 19 with several hundred doctors and their wives in attendance. The scientific program was presented during the afternoon and a cabaret dinner dance was held at the Daniel Boone Hotel during the evening.

The scientific program was opened by Dr. Walter Freeman of Washington, D. C., with a paper on "Conservative Treatment of Head Injuries." He was followed by Dr. J. Shelton Horsley of Richmond, Virginia, who spoke on "Gastric Carcimona." The program was concluded by Dr. C. H. Cocke, Ashville, North Carolina, on the subject, "Certain Phases of the Healing Process in Pulmonary Tuberculosis."

Those assigned to open the discussions on the three papers were Dr. Archer A. Wilson, Dr. John E. Cannaday, Dr. J. Ross Hunter, Dr. Robert King Buford, Dr. G. H. Barksdale, all of Charleston, and Dr. William R. Laird of Montgomery.

A golf tournament in connection with the May 19 meeting was held at the Kanawha Country Club with approximately twenty-five entries. The tournament was won by Dr. George M. Lyon, Huntington, who was awarded the Society's silver trophy.

Following the scientific program a dinner dance and cabaret was held in the ball room of the Daniel Boone Hotel with about 125 doctors and their wives in attendance.

J. S. KLUMPP, Secretary.

CENTRAL WEST VIRGINIA

A very interesting meeting of the Central West Virginia Medical Society was held in Richwood on the evening of April 27 with a fine attendance. Following a delicious banquet, the scientific program was presented.

Dr. R. H. Walker of Charleston was present and read a paper on "The Treatment of Fractures by Local Anesthesia."

Dr. Walter W. Point of Charleston gave an address on "The Average Normal Case of Pregnancy and Labor."

Dr. Norman R. Price of Marlinton, Secretary of the Greenbrier Valley Medical Society, presented an essay on "The Physician Himself."

These papers were freely discussed by all members present.

The next meeting of the Society will be held in Webster Springs in July.

R. A. MCCOSH, Secretary.

OHIO COUNTY

Dr. Robert J. Reed, Jr., Wheeling, was elected president of the Ohio County Medical Society at the annual election meeting held on the evening of May 6. Dr. Reed succeeds Dr. W. C. Sammons who served during the past year. Dr. H. C. Harpfer, who has served the Society as secretary, was elected first vice-president.

Other officers elected at the May 6 meeting were Dr. Russell C. Bond, secretary, and Dr. William J. Morginson, treasurer. Those elected to the board of censors were Dr. Howard T. Phillips, Dr. W. P. Sammons, and Dr. W. M. Sheppe.

Delegates to the State meeting at Parkersburg next month will be Dr. R. U. Drinkard, Dr. W. P. Sammons, Dr. E. L. Armbrecht, Dr. H. T. Phillips, and Dr. H. C. Harpfer. Alternates are Dr. W. T. McClure, Dr. M. B. Williams, Dr. J. W. Gilmore, and Dr. E. S. Phillips.

At the May 20 meeting of the Society, held at the Ohio Valley General Hospital, Dr. Fred W. Rankin of the Mayo Clinic, Rochester, Minnesota, was the scientific essayist. He read a most interesting paper on "Some Problems in the Surgical Treatment of Cancer of the Large Bowel." Discussion was opened by Drs. Thomas M. Klug, Robert W. Lukens, George W. Abersold, and W. S. Fulton.

H. C. HARPFER, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular May meeting on Wednesday evening, May 18, at the Hatfield-Lawson Hospital, Logan, with nineteen members and visitors present.

The Society adopted a new Constitution and By-Laws, and elected two of its members to honorary membership; namely, Dr. Wm. F. Farley of Holden, and Dr. S. B. Lawson of Logan. The State Association was likewise requested to elect these members to honorary membership at the Parkersburg meeting in June. Dr. Farley was not present at the meeting because of ill health, but Dr. Lawson responded with an interesting talk on the pioneer practice of medicine in this county.

After transacting other business the following

scientific program was rendered:—Dr. Robert King Buford, Charleston, addressed the society on "Diseases of the Thyroid Gland," and showed a moving picture and demonstrated four interesting cases of thyroid disease furnished by the society members. Dr. Moritz F. Petersen, also of Charleston, addressed the society on "The Management of Bed-wetting," describing his method of treatment which he says always works.

FRED E. BRAMMER, Secretary.

EASTERN PANHANDLE

A most interesting meeting of the Grant, Hardy, Hampshire, Mineral Medical Society was held at Luke, Maryland, just over the West Virginia border, on the evening of May 2. This was a joint session of the G. H. H. M. Society with the Allegheny and Garrett County Medical societies of Maryland. Motion pictures of interesting medical subjects were shown and a mighty good time was had.

Dr. A. A. Scherr of Keyser has been confined to his bed for the past seven months with myocarditis. Dr. J. W. H. Smith, formerly of Keyser, has moved to Canada.

T. C. GIFFIN, Secretary.

CABELL COUNTY

The regular meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on Thursday, May 12, at 8:30 P. M. The scientific program consisted of a symposium on appendicitis. Dr. Chauncey Wright discussed the causes of pain and rigidity in appendicitis. Dr. W. E. Neal and Dr. Karl Kappes gave interesting case reports.

There was a good attendance and a number of important business matters were taken up.

Dr. J. S. Klumpp and Dr. D. J. Cronin were the essayists at the April 28 meeting of the Cabell County Medical Society which was also held at the Hotel Pritchard, Huntington. Dr. Klumpp and Dr. Cronin both read interesting papers on "Birth Control." WILLIAM W. STRANGE, Secretary.

MONONGALIA COUNTY

The Monongalia County Medical Society was host to the doctors of Harrison and Marion counties on the evening of May 25 when the Tri-County meeting was held at Morgantown. There was a fine attendance of both local doctors and visitors. The scientific program was preceded by a dinner at the Hotel Morgan at 6:30 o'clock, P. M.

The scientific essayist of the evening was Dr. Harry E. Mock of the Northwestern University Medical School, Chicago. He presented a most interesting paper on "Back Injuries," which was discussed by many members present. Following the scientific program, the doctors and their wives enjoyed a dance in the hotel ball room.

G. R. MAXWELL, Secretary.

KANAWHA COUNTY

An interesting meeting of the Kanawha Medical Society was held in the Public Library building, Charleston, on the evening of May 11, with a good attendance. New members elected were Dr. R. O. Halloran, Dr. P. A. Tuckwiller, and Dr. Preston Champe, Charleston, and Dr. T. R. Beggs, Spencer.

The scientific program was presented by Dr. W. W. Strange and Dr. Raymond Sloan of Huntington. Dr. Strange gave a paper on "Surgery of the Sympathetics," which was discussed by Drs. E. B. Henson, J. R. Hunter, and John E. Cannaday. Dr. Sloan's paper was on "The Ketogenic Diet in the Treatment of Epilepsy." This paper was discussed by Drs. Hugh Thompson, Ross Dodson, A. E. Amick, R. A. Ireland, and C. N. Brown.

Following the scientific program, the annual society spelling match was held. Team captains were Dr. G. R. Schoolfield and Dr. R. H. Dunn. The winner of the trophy was Dr. Francis Clark. Dr. Maxfield Barber was runner-up.

M. F. PETERSEN, Secretary.

FAYETTE COUNTY

A fine meeting of the Fayette County Medical Society was held at the Hotel Hill, Oak Hill, on Wednesday evening, May 11, with a good attendance. The scientific program was presented by Dr. A. J. Burkholder, Layland; Dr. W. D. Simmons, Glen Ferris; and Dr. B. F. Brugh, Montgomery.

Dr. Burkholder's paper was on "Undulant Fever." He was followed by Dr. Simmons with a paper on "Heart Disease." The program was concluded by Dr. Brugh with a paper on "Complications Following the Use of Arsphenamine in Luetic Infections." Dr. Brugh also reported several interesting cases.

Following discussion of these papers, a short business section was held. Following this, refreshments were served to the members present.

W. P. BITTINGER, Secretary.

OBITUARY

DR. BENJAMIN F. SHUTTLEWORTH

Dr. Benjamin Franklin Shuttleworth of Clarksburg, one of the most prominent physicians of Harrison County, died suddenly on March 31, at the age of fifty-four years. Death was attributed to heart disease.

Dr. Shuttleworth was born in 1877 and, following his early education, was graduated from the Jefferson Medical College, Philadelphia, in 1905. The same year he was licensed to practice medicine in West Virginia. In 1906 he became a member of the West Virginia State Medical Association and continued as an active and interested worker for more than twenty-five years.

Dr. Shuttleworth was a fellow of the American College of Physicians and the American Medical Association, a member of the staff of St. Marys Hospital, Clarksburg, and a former member of the public health council of West Virginia. He will be remembered by many members throughout the state as one of the genial hosts at the Clarksburg meeting.

DR. ZOLLEY B. FERRELL

The Parkersburg Academy again mourns the death of one of its beloved members, Dr. Zolley B. Ferrell. Dr. Ferrell died April 9, a few days following an abdominal operation. He received his pre-medical education at Valparaiso University, his medical degree from Chicago Medical College on May 13, 1916. His age at death was forty-eight years.

The first few years Dr. Ferrell practiced at Ravenswood, a few miles from his place of birth, Red Knob, West Virginia. He located in Parkersburg in 1919 and was married in 1920, his wife and one daughter besides father and mother, five sisters and two brothers survive him.

Dr. Ferrell had always been an interested member in the local medical society, the State Medical Association, and the American Medical Association. He was also a member of the Woodmen of the World and a member of the Junior Order United American Mechanics.

The members of the Society attended the funeral in a body, acting also as active and honorary pallbearers. The local and state societies have lost an excellent member and the community, too, will suffer from the loss of so valuable a doctor. He was buried in Parkersburg.—J. T. G.

GENERAL NEWS

MEDICAL COLLEGE OF VIRGINIA

Dr. William D. Cutter, Secretary, Council on Medical Education and Hospitals, American Medical Association, will deliver the commencement address at the close of the ninety-fourth session of the Medical College of Virginia, Richmond, on Tuesday, May 31, 1932.

The Medical College of Virginia will confer the honorary degree of doctor of science upon General Walter D. McCaw, an alumnus, at the commencement exercises. Doctor McCaw was chief surgeon of the A. E. F. from October, 1918, to July, 1919.

Frank L. Apperly, M.A., M.D., Sc.D., has accepted the professorship of pathology at the Medical College of Virginia. Until recently Doctor Apperly was a member of the department of pathology of the University of Melbourne. He was a Rhodes scholar and graduated in medicine at Oxford in 1920. Dr. Apperly has done important scientific work chiefly in pathology both in Europe and in Australia.

NEW SHIRT RACKET

West Virginia physicians are hereby warned against a man who gives his name as J. G. Jones and who represents himself as a factory agent of a shirt manufacturing company. Jones solocited a number of doctors in the Kanawha Valley and was successful in landing a few orders. He asked for payment in advance. In two cases he collected about $18 and was not heard from again.

A letter to the shirt manufacturer, which Jones claimed he represented, brought forth the information that they had never heard of J. G. Jones. Further, they stated that they did not accept payment in advance on any of their orders.

INDIANA GIFT

A gift of $250,000 to Indiana University by Mr. and Mrs. William H. Coleman, of Indianapolis, for a women's hospital to be used principally for lying-in patients has been announced by officials of the university. The new hospital will be located on the medical school campus at Indianapolis and will become a training unit of the school of medicine.

This new gift from Mr. and Mrs. Coleman is in addition to one of $75,000 contributed by them last June to the school of medicine of the state university for the endowment of three chairs—opthalmology under the direction of Dr. F. A. Morrison, surgery directed by Dr. John H. Oliver, and gynecology under Dr. O. G. Pfaff. The medical and hospital gifts are in the form of a memorial to Mrs. Suemma Coleman Atkins, daughter of Mr. and Mrs. Coleman.

HEALTH INSURANCE

With twenty to thirty per cent of the sick in the United States not at present receiving adequate medical care, some form of compulsory health insurance is almost certain to be adopted to care for these people, according to A. M. Simons and Dr. Nathan Sinai who have just concluded a two-year investigation of the situation in this country and abroad. Their report is being published in book form by the University of Chicago Press under the title, "The Why of Health Insurance."

The social, economic and political conditions that led to the enactment of health insurance laws in all leading European countries are now present in the United States, they say, and the pressure for this relief measure is increasing. Health insurance bills are now before the legislatures of several states, and similar bills are being drafted in other states.

"Health insurance," they state, "is neither a panacea for all preventive and public-health problems, nor the bureaucratic state medicine so abhorrent to the other extremists. Notwithstanding the many faults and deficiencies of the various systems, no country that has ever tried compulsory health insurance would be willing to go back to pre-insurance days, and notwithstanding their conflict with its policies, there is practically no opposition in the medical professions of any insurance country to the principles of insurance. Nor has any dental association in any insurance country ever officially condemned the system of insurance.

"In France, after the insurance law had passed in the Chamber of Deputies, the physicians and dentists united, tardily, in an attack on it, held up its enforcement for two years, and virtually rewrote it. Under the French health laws, the relation between practitioner and patient is virtually the same as in private practice. The patient has free choice of practitioner, the practitioner fixes his own fee, and the insured presents the practitioner's bill to the insurance organization and is reimbursed with a percentage of it—usually eighty per cent.

"In Great Britain and Germany the situation is very different. All medical and dental service is free to the patient, but he must choose his practitioner from an approved list. In Germany the families of the insured are covered. In Great Britain they are not. The British system differs from the German in the further respect that specialist services are not included, and medical service is, as far as practicable, divorced from the social management that determines whether cash benefits shall be paid. Our investigation leads us to believe, most decidedly, that separation of the medical service from the administration of cash benefits results in a more efficient and honest operation of the system. Cash benefits in time of sickness, like those for old age, widowhood, unemployment, military services, etc., should be based upon economic conditions in which health is but one factor.

"As to the effect of compulsory health insurance laws upon the practice of physicians and dentists, we found, in all countries, that while there is wide variation in professional incomes under insurance, they will average at least as high, and probably somewhat higher, than they were in private working-class practice before insurance. There is no loss by bad debts, and there is a much larger sum of money expended for the work of physicians and dentists. There is less idle professional time; the average insurance physician and dentist does considerable more work and receives more pay than he did before the installation of insurance."

Mr. Simons is a member of the research staff of the committee on the duty of dental practice of the American Dental Association, and Dr. Sinai is Associate Professor of Public Health at the University of Michigan. Their investigation was made under the auspices of the American Dental Association and the American College of Dentists to determine how the practice of medicine and dentistry is affected by health insurance.

"Their report," says Dr. Herbert E. Phillips, chairman of the Committee on the Study of Dental Practice, "will serve as a warning to the physicians and dentists of this country that if they do not take a hand in formulating the policies of any insurance system that may be installed in the United States, the professions may find themselves in conflict with its practices when it is too late."

COST OF HEALING CULTS

Approximately $125,000,000 annually, equivalent to twelve per cent of the amount spent on the 142,000 doctors of medicine, is expended in the United States on 36,150 other practitioners who hold themselves out to treat the sick—osteopaths, chiropractors, naturopaths and allied healers, and Christian Science and New Thought practitioners—according to Louis S. Reed, Ph.D., in a recent report presented to the Committee on the Costs of Medical Care.

Present legislation designed to protect the public from unqualified practitioners is not accomplishing its purpose, according to the report, for, although it maintains high standards for doctors of medicine, it sanctions the existence on a lower plane of qualifications of thousands of poorly trained practitioners. The use of any therapeutic measures by untrained or poorly trained individuals, unable to diagnose disease and unaware of their limitations, is unsound, dangerous and wasteful, no matter how sound those measures may be, Mr. Reed said.

The report stated that, while religious healing is able to accomplish beneficial results in some conditions, it may be harmful when practiced by those unable to diagnose disease, especially when it is held that disease is an illusion.

Mr. Reed's report, "The Healing Cults," published by the University of Chicago Press, is the sixteenth study completed by the Committee on the Costs of Medical Care which, on November 29, will issue its final report with recommendations based on its exhaustive five-year study of the problem of "the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life."

As a result of his exhaustive study, Mr. Reed estimated that the people of the United States annually spend $42,000,000 for the services of the nation's 7,650 osteopaths; $63,000,000 on 16,000 chiropractors; $10,000,000 on 2,500 naturopaths and allied groups; and another $10,000,000 on the 10,000 Christian Science and New Thought healers.

A study of 7,800 representative families revealed that only fifty-two families considered healers in these cults as their family practitioners. Only 1.3 per cent of the families having medical care during the year used them exclusively, although ten per cent resorted to healing cult practitioners at one time or another.

OVER-SUPPLY OF NURSES

Nine months of work in the year—that is the most a nurse can hope for in the United States today. The average nurse won't actually get that much.

Exact figures on the oversupply of nurses in this country were made public at San Antonio, Texas, April 12, when Dr. May Ayres Burgess, director of the Committee on the Grading of Nursing Schools, told 4,000 members of the already agitated nursing profession that no more than 273 days of work in the year are available for the average nurse. Dr. Burgess spoke before a session of the biennial convention of the three natural nursing organizations, the general topic being "Nursing at the Crossroads."

This nine months of work for each nurse would be possible only if nurses served all the sick negroes in the South and if all the very poor and all the sick in remote rural districts were adequately nursed during severe illness. Moreover, this 273 days' employment would actually be available only if sickness were spread out evenly throughout the year and divided evenly among all nurses.

"This year 25,000 young women for whom there is no work will be graduated from the nurses' training schools," Dr. Burgess declared. "Next year there will be another 25,000, and the year after that still another. In the ten years from 1920 to 1930, the population of the entire United States has increased sixteen per cent, but the number of graduate nurses has increased ninety-seven per cent. The United States Census gives a total for 1930 of 294,268 trained nurses."

High school principals and teachers must be made to realize what conditions are in nursing, it was pointed out. No second rate high school student stands a decent chance of being self-supporting in nursing today. Only the best students in the graduating class should be encouraged to go into nursing, because they are the only ones who stand a chance of being successful in an overcrowded and highly competitive field.

"Overproduction is bad," Dr. Burgess told the nurses, "because it means unemployment and distress to the present generation of nurses. It is even more serious because it means a sharply curtailed supply of intelligent young nurses for the future. The only way to attract the intelligent girl into nursing is to demonstrate through the happiness and success of the women who already belong that the profession is a desirable one to enter."

CONVENTION PROGRAM

OFFICIAL CALL

To the Officers, Delegates, and Members of the West Virginia State Medical Association:

The Sixty-Fifth Annual Meeting of the West Virginia State Medical Association will be held at Parkersburg, West Virginia, with headquarters at the Chancellor Hotel, from Monday, June 20, to Thursday, June 23, 1932.

The Council will convene at 3 o'clock on the afternoon of June 20.

The House of Delegates will convene at 8 on the evening of June 20.

The General Scientific Assembly will meet for the first time at 9:30 o'clock on the morning of June 21.

The Sections on Surgery, Internal Medicine, Pediatrics, and Eye, Ear, Nose and Throat will convene at 9 o'clock on the morning of June 23.

The Annual Address of the President will be delivered on the evening of June 21.

The Annual Election of Officers for 1933 will be held by the House of Delegates immediately following the President's Address on Tuesday evening, June 21.

The Oration on Medicine will be delivered at the general session on the afternoon of June 21.

The Oration on Surgery will be delivered at the general session on the afternoon of June 22.

The registration department will be open at 10 o'clock on the morning of June 20 and will remain open until 8 o'clock the same evening. Thereafter, it will remain open from 8:30 o'clock, A. M., until 8:30, P. M. until the close of the convention.

Respectfully,

JOE W. SAVAGE,
Executive Secretary.

ORDER OF BUSINESS

Council.—For the Council sessions, the order of business will be as follows:

Call to order by Council Chairman.
Reports of Standing Committees.
Reports of Special Committees.
Report of Secretary.
Report of Treasurer.
Reports of District Councillors.
Report of Auditing Committee.
Unfinished Business.
New Business.

House of Delegates.—For sessions of the House of Delegates the order of business will be as follows:

Call to order by the President.
Roll Call.
Reports of Standing Committees.
Reports of Special Committees.
Report of Secretary.
Report of Treasurer.
Unfinished Business.
New Business.

TUESDAY MORNING, JUNE 21

General Session—9:30 o'Clock

CALL TO ORDER

Dr. Albert H. Hoge, Bluefield, President.

INVOCATION

ADDRESS OF WELCOME

RESPONSE

SCIENTIFIC PAPERS

Nephritis, Nephrosis, and Edema.

Dr. F. Churchill Hodges, Huntington.

The term Nephritis is in many instances a misnomer. Nephrosis, while rather rare, should be recognized. Edema is so closely related to the two that it is here included. A brief resume of the pathology with slide demonstration is given; and the pathologic physiology discussed, including the rationale of protein feeding.

Discussion:

Dr. Luther C. Davis, Fairmont.
Dr. Walter C. Swann, Huntington.

The Treatment of Thyroid Intoxication (Lantern Slides).

Dr. Mont Reid, Cincinnati.

A consideration of Thyroid Intoxication with special reference to the value of the basal metabolic determination and the effect of apparently symptomless goiters upon the heart.

Discussion:

Dr. Robert King Buford, Charleston.
Dr. William R. Laird, Montgomery.

TUESDAY AFTERNOON, JUNE 21

General Session Continued—2 o'Clock

Alleviating Pain and Shortening Labor.

Dr. Walter W. Point, Charleston.

The essayist deals with the earliest recorded efforts to relieve pain in labor and discusses the progressive improvements in pain relief until the present time. The introduction of anesthesia and the many aids to shortening labor, especially those developed within very recent years, are discussed as to their safety, availability, usefulness, and efficiency.

Discussion:

Dr. James R. Bloss, Huntington.
Dr. B. O. Robinson, Parkersburg.

Cranio Cerebral Injuries.

Dr. W. V. Wilkerson, Montgomery.

Fractures of the skull are regarded as major injuries. Other fractures equally extensive are not regarded as seriously. The underlying pathological physiology which makes even minor head injuries such serious problems will be discussed.

Discussion:

Dr. Mont Reid, Cincinnati.
Dr. R. O. Rogers, Bluefield.

Oration on Medicine—Heart Disease in West Virginia.

Dr. Raphael J. Condry, Elkins.

Heart Disease, the leading cause of death in West Virginia, is the outstanding problem of preventive medicine in this state. Preventive measures are impossible without a thorough understanding of the etiological factors responsible for, and a proper classification of, heart maladies. A comparative study of the incidence of heart disease in West Virginia, the need of organized study, the value of such studies and the methods necessary for a solution of this problem by the development of heart clinics throughout the state.

No Discussion.

Cystitis in the Female.

Dr. Berlin B. Nicholson, Parkersburg.

An analysis of 200 gynecological cases is presented from the angle of postoperative cystitis. The pre- and postoperative cultural findings, and other related data, are analyzed. The etiology, diagnosis and treatment of cystitis in the female are briefly reviewed.

Discussion:

Dr. T. L. Harris, Parkersburg.
Dr. R. D. Gill, Wheeling.

TUESDAY EVENING, JUNE 21

7:30 o'Clock

Some Features in Hospital Management.

A talking motion picture prepared at Presbyterian Hospital, Chicago, by Asa S. Bacon, Superintendent, under the auspices of the American Hospital Association. Numerous economies and time-saving features are pointed out by Mr. Bacon as the scenes in the various hospital departments are presented. This talking motion picture in two reels was made possible under a special grant to Petrolagar Laboratories.

PRESIDENT'S ANNUAL ADDRESS.

Subject—*A Medical Retrospect.*

Dr. Albert H. Hoge, Bluefield.

(Immediately following Dr. Hoge's address, the House of Delegates will convene for the election of officers.)

WEDNESDAY MORNING, JUNE 22

General Session Continued—9 o'Clock

The Tonsil Problem.

Dr. Arthur K. Hoge, Wheeling.

Should tonsils be removed? Diagnosis; method of removal; post operative treatment; dangers of tonsillectomy during epidemics of acute respiratory infections, mastoids, etc.

Discussion:

Dr. R. D. Roller, Jr., Charleston.
Dr. M. F. Petersen, Charleston.

Excretion Urography.

Dr. B. H. Nichols, Cleveland, Ohio.

Indications for the use of excretion urography and the technique of the procedure will be described. Urograms made by this method will be interpreted. Cases will be illustrated in which the diagnosis was made by excretion urography after instrumental pyelography failed.

Discussion:

Dr. C. E. Clovis, Wheeling.
Dr. C. T. Francis, Fairmont.

The Management of Diabetic Coma.

Dr. W. M. Sheppe, Wheeling.

The principles of the management of diabetic coma as developed in the last five years are discussed. The importance of the cardiovascular system in this acute crisis is emphasized and procedures outlined for the support of the circulation. A frequent and rather unlooked-for cause of death is explained in the discussion. Several other practical points in the care of the extremities of the acutely sick diabetic are outlined.

Discussion:

Dr. G. H. Barksdale, Charleston.
Dr. R. J. Snider, Wheeling.

Public Health Service; With Special Reference to Milk Sanitation.

Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service.

Discussion:

Dr. W. T. Henshaw, Charleston.
Dr. H. H. Pierce, Morgantown.

WEDNESDAY AFTERNOON, JUNE 22
General Session Continued—2 o'Clock

Practical Value of Special Diagnosis Methods in the Study of Digestive Diseases.

Dr. E. B. Freeman, Baltimore, Maryland.

A brief discussion of esophagoscopy; gastric analyses including fractional method; duodenal drainage; ferment studies; proctoscopic examinations; stool studies; functional liver tests; gall bladder visualization; radiographic studies of the esophagus and gastro-intestinal tract.

Discussion:

Dr. D. A. MacGregor, Wheeling.
Dr. M. I. Mendeloff, Charleston.

Oration on Surgery—Blindness from the Practitioner's Standpoint.

Dr. J. E. Blaydes, Bluefield.

A short history of ophthalmology; a few statistics on number of the blind; common diseases causing blindness encountered by the general practitioner.

No Discussion.

The Practice of Preventive Pediatrics.

Dr. A. Graeme Mitchell, Cincinnati, Ohio.

In childhood the practice of preventive medicine produces better results than at any other time of life. If preventive measures now known were universally applied, much disease would not occur. A large number of the procedures which are of a preventive nature should be applied by the practicing physician. Discussion of some of the procedures which should be used by the practitioner.

Discussion:

Dr. George M. Lyon, Huntington.
Dr. A. A. Shawkey, Charleston.

Plea for Perineal Versus Other Procedures in Rectal Cancer Extirpation.

By Dr. Samuel Goodwin Gant, New York City.

Rectal carcinomas have been removed by the perineal, sacral, vaginal and abdomino-perineal routes. Experience in more than 300 rectal excisions has convinced the author that perineal is far superior to other excisions except where growths extensively involve the sigmoid or colon and can not be extirpated except with the aid of abdominal exploration

Discussion:

Dr. Rolla Camden, Parkersburg.
Dr. W. P. Black, Charleston.

WEDNESDAY EVENING, JUNE 22
6:45 o'Clock

ANNUAL CONVENTION BANQUET

TOASTMASTER

Dr. W. S. Fulton, Wheeling.

BANQUET ADDRESS

Dr. Samuel Goodwin Gant, New York City.
"Humorous Experiences of a Proctologist."

CONVENTION BALL

(9:30 until 1 o'clock)
Place to be announced later.

NOTE:—Immediately following the banquet, Dr. Gant will present a short program of magical experiments.

SECTION ON PEDIATRICS

JUNE 23, 1932—9 O'CLOCK A. M.

The Pediatrician and the General Practitioner.

Dr. Robert C. Hood, Clarksburg.

Dealing with the relationship between the general practitioner and pediatrician and the benefits to be derived from a closer cooperation in the treatment of infants and children—an estimate of the possibilities obtained in pediatric consultations.

Discussion:

Dr. M. F. Petersen, Charleston.

Diphtheria Immunization.

Dr. W. Byrd Hunter, Huntington.

Discussion:

Dr. George M. Lyon, Huntington.

Fatigue in School Children.

Dr. J. T. Thornton, Wheeling.

From experience in treating children of school age suffering from slight malnutrition, the author feels that the hours for school children are badly arranged and that they are confined to the school for too long a time each day.

Discussion:

Dr. A. A. Shawkey, Charleston.
Dr. C. L. Holland, Fairmont.

The Pediatrician and the Private Practice of Public Health.

Dr. R. H. Paden, Charleston.

Pediatricians are in an advantageous position for the private practice of public health, for it is a fact that many physical and mental defects found in older children and adults have their beginnings in early childhood. The development of such defects can often be prevented. Early detection and correction of defects may prevent permanent impairment of individual's health later in life.

Discussion:

Dr. William J. MacDonald, Wellsburg.

SECTION ON INTERNAL MEDICINE
JUNE 23, 1932—9 O'CLOCK A. M.

Will This Patient's Heart Stand an Anesthetic?

Dr. Oscar B. Biern, Huntington.

Comparison of local and general anesthetics. Deaths in persons known to have heart disease. Deaths in persons presumably not having heart disease Fallacy of attributing every post-operative death to heart disease. Elective surgery in fifth and sixth decades.

Sudden Heart Death.

Dr. W. T. McClure, Wheeling.

1. Wide prevalance of heart disease, including figures for Ohio County.
2. Sudden heart death: (a) Symptoms; (b) Cancer and Mechanism.
3. Summary of personal experience in sudden heart death.

Joint Discussion:

Dr. John E. Cannaday, Charleston.

Dr. H. R. Sauder, Wheeling.

The Differential Diagnosis of the Types of Colitis and Their Treatment.

Dr. J. A. Bargen, Mayo Clinic, Rochester, Minn.

The common types of severe colitis: namely, bacterial chronic ulcerative colitis, amebic colitis, and tuberculous colitis have characteristic proctologic and roentenologic pictures. The histories of their illnesses are usually differential and the rectal discharges vary enough to be suggestive of the type of ulcerative process. The important differentiation of these diseases is between them and the so-called "mucous colitis" and unstable colon. The important differential features of the latter include the absence of findings of serious organic data. The treatment of the organic forms of colitis is fairly clear cut. The treatment of "mucous colitis" and its concomitants is more individual.

Discussion:

Dr. G. R. Maxwell, Morgantown.

Dr. A. H. Grigg, Beckley.

EYE, EAR, NOSE AND THROAT SECTION
JUNE 23, 1932—9 O' CLOCK A. M.

Some Benign Pathological Finding in the Fossa of Rosenmuller; Treatment and Sequel.

Dr. C. E. Park, Parkersburg.

Discussion:

Dr. H. H. Veon, Parkersburg.

Dr. J. E. McKenzie, Beckley.

Cancer of the Larynx.

Dr. Waitman F. Zinn, Baltimore, Maryland.

A brief history of the early diagnosis and treatment of malignancy of larynx. The necessity of careful study of all cases and of the institution of prompt treatment. There are various methods of treatment suggested by different authors; however, the essayist's best results are obtained from the one stage laryngectomy. In this experience, laryngo-fissure has not proven successful. (Exhibition of cases.) The essayist's cases have shown very little benefit from the application of radium and x-ray. Complications following laryngectomy.

Discussion:

Dr. W. C. Thomas, Fairmont.

Dr. V. E. Holcombe, Charleston.

Study of Sinus Disease in Children.

Dr. Victor W. Fischbach, Cincinnati, Ohio.

Consideration of nasal sinus infection in infancy. General consideration of infection by contact, and methods of preventing such infection. Non-surgical and surgical treatment of sinus infected children.

Discussion:

Dr. S. S. Hall, Fairmont.

Dr. Ivan Fawcett, Wheeling.

SECTION ON SURGERY
JUNE 23, 1932—9 O'CLOCK, A. M.

Intestinal Obstruction.

Dr. Eugene B. Wright, Clarksburg.

Intestinal Obstruction, with special reference to:
(a) Present day mortality rate.
(b) Insidious onset of type commonly associated with bowel growths.
(c) Operation of election rather than emergency.

Discussion:

Dr. T. E. Vass, Bluefield.

Dr. R. B. Bailey, Wheeling.

The Management of Goiter.

Dr. W. Carl Kappes, Huntington.

The management of the diffuse toxic and so-called toxic and non-toxic nodular goiter is discussed. Of paramount importance is the early surgical interference in the diffuse toxic group. Why do some of the exophthalmic goiter cases have persistent hyperthyroid symptoms, although there is left only the smallest amount of tissue at the time of operation? A plea is made for the early surgical interference in the so-called non-toxic nodular goiter cases.

Discussion:

Dr. J. Ross Hunter, Charleston.

Dr. William R. Goff, Parkersburg.

Estimation of Permanent Disabilities in Industrial Accidents.

Dr. Henry H. Kessler, Newark, N. J.

Discussion:

Dr. Russel Kessel, Charleston.

Dr. D. J. Kindel, Fairmont.

Differential Diagnosis of Bone Lesions.

Dr. Dean Lewis, Baltimore, Maryland (President-elect, American Medical Association).

Discussion:

Dr. J. E. Wilson, Clarksburg.

Dr. Francis A. Scott, Huntington.

CONVENTION ANNOUNCEMENTS

There will be a meeting of the Council of the West Virginia State Medical Association on the second floor of the Chancellor Hotel, Parkersburg, at 3 o'clock on the afternoon of June 20, 1932.

There will be a meeting of the House of Delegates on the second floor of the Chancellor Hotel at 8 o'clock on the evening of June 20, 1932.

A second meeting of the House of Delegates will be held on the evening of June 21, immediately following the President's Address, for the purpose of electing officers for 1933 and to transact any unfinished business from the previous session.

All members of the Association, their wives and guests are urged to register immediately upon arrival in Parkersburg. The registration desk will be located in the second-floor lobby of the Chancellor Hotel and will open at 10 o'clock on the morning of June 20.

All members who expect to attend the Parkersburg meeting and who have not yet secured hotel reservations are urged to do so at once. The Chancellor, the Stratford, and the Monroe hotels are all recommended, and their rates appear elsewhere in this JOURNAL. The Chancellor will be the headquarters hotel for the convention and all general and sectional meetings will be held there.

THE SCIENTIFIC ESSAYISTS

Our-of-state speakers who will appear on the scientific program at Parkersburg on June 21-23 are listed below in the order of their appearance.

Dr. Mont Reid, Cincinnati.
Dr. B. H. Nichols, Cleveland.
Dr. Hugh S. Cumming, Surgeon General, U. S. Public Health Service.
Dr. E. B. Freeman, Baltimore.
Dr. A. Graeme Mitchell, Cincinnati.
Dr. Samuel Goodwin Gant, New York City.
Dr. J. A. Bargen, Mayo Clinic, Rochester, Minn.
Dr. Victor W. Fischbach, Cincinnati.
Dr. Waitman F. Zinn, Baltimore.
Dr. Henry H. Kessler, Newark, N. J.
Dr. Dean Lewis, President-elect, American Medical Association, Baltimore.

The members of the Association who are scheduled to appear on the Parkersburg program are as follows:

Dr. F. Churchill Hodges, Huntington.
Dr. Walter W. Point, Charleston.
Dr. W. V. Wilkerson, Montgomery.
Dr. Raphael J. Condry, Elkins.
Dr. Berlin B. Nicholson, Parkersburg.
Dr. Albert H. Hoge, President, Bluefield.
Dr. Arthur K. Hoge, Wheeling.
Dr. W. M. Sheppe, Wheeling.
Dr. J. E. Blaydes, Bluefield.
Dr. W. S. Fulton, Wheeling.
Dr. Robert C. Hood, Clarksburg.
Dr. W. Byrd Hunter, Huntington.
Dr. J. T. Thornton, Wheeling.
Dr. R. H. Paden, Charleston.
Dr. Oscar B. Biern, Huntington.
Dr. W. T. McClure, Wheeling.
Dr. C. E. Park, Parkersburg.
Dr. Eugene B. Wright, Clarksburg.
Dr. W. Carl Kappes, Huntington.

LOCAL COMMITTEES

Dr. R. H. Boice, President of the Parkersburg Academy of Medicine, has recently announced the appointment of the special committees to take charge of the various local details in connection with the annual meeting at Parkersburg on June 21-23, 1932. The general chairman is Dr. George D. Jeffers, and the chairmen of the various sub-committees make up the general committee.

Chairmen of the sub-committees include Dr. O. D. Barker, Banquet and Dance; Dr. M. O. Fisher and Dr. Rolla Camden, Gold Tournament; Dr. B. O. Robinson, Reception and Welcome; and Dr. R. H. Wharton, Parking and Decoration. The Secretary of the Parkersburg Academy of Medicine is Dr. John T. Goff.

All of the officers and members of the special convention committees have rendered yeoman service to make the Parkersburg meeting one of the best in the history of the Association. Practically all details have already been disposed of and everything is in readiness for the arrival of the visiting members on June 20.

THE GOLF TOURNAMENT

The annual convention golf tournament at Parkersburg is in charge of a special committee composed of Dr. M. O. Fisher and Dr. Rolla Camden, who will handle the event on behalf of the Parkersburg Academy of Medicine. Although the tournament will be a handicap affair, prizes will be awarded for both the low net and the low gross scores. Prizes will also be awarded to the runners up, according to present plans.

Dr. Fisher and Dr. Camden have requested that all prospective entries in the golf tournament send in their handicaps at least a week in advance of the Parkersburg meeting. Otherwise there may be some difficulty in making arrangements for everyone to compete.

The entire tournament will be run off on Monday, June 20, the day before the official opening of the Parkersburg meeting. Members of the Association Council, who expect to play in the tournament, should go around in the morning as there will be a meeting of the Council at 3 o'clock on the afternoon of June 20. The House of Delegates will not meet until 8 o'clock that evening.

Dr. Camden has announced that the Parkersburg Country Club will be able to take care of as many as ten doctors, in case any members of the Association care to live there during the convention. Doctors who would like to secure rooms at the country club should notify Dr. Camden at once. A greens fee of one dollar will be charged all tournament entries.

All tournament prizes will be awarded at the annual convention banquet at the Chancellor Hotel on Wednesday evening, June 22.

AUTOMOBILE PARKING

Dr. R. H. Wharton, chairman of the parking and decorating committee for the state meeting, has recently made arrangements with Parkersburg city officials to extend courtesy guest cards to all members of the Association who drive to the convention. While these cards are not expected to prove a panacea for all parking ills, they are expected to simplify the problem for out-of-town guests.

Ample parking facilities at a nominal cost will be found next to the Chancellor Hotel. This charge is 15 cents for parking prior to 5 P. M., and 25 cents for 24-hour parking service. The parking ground is well lighted with an attendant continually on duty.

PARKERSBURG HOTEL RATES

To those who are unfamiliar with Parkersburg, we are pleased to announce that there are ample hotel facilities in that city for the coming meeting of the State Association. The Chancellor Hotel is the official headquarters where all of the general and sectional meetings will be held. Two other Parkersburg hotels, the Monroe and the Stratford, are recommended as quiet and comfortable hostelries.

The room rates at the Chancellor Hotel are as follows:

Single.....$2.00 to $5.00 per day
Double.....$3.50 to $7.00 per day

The room rates at the Monroe are:

Single, without bath...$1.25 to $1.50 per day
Double, without bath..$2.00 to $2.50 per day
Single, with bath.....$2.00 per day
Double, with bath.....$3.50 per day

The room rates at the Startford are:

Single, without bath.....$1.50 per day
Double, without bath.....$2.50 per day
Single, with bath.....$2.00 to $2.50 per day
Double, with bath....$3.50 to $4.00 per day

The café service at the Chancellor includes both dining room and cafeteria. In the dining room, club breakfasts are served at from 25 to 75 cents, special luncheon at 65 cents, and a table d'hote dinner at $1.00. There is also a la carte service in both the dining room and cafeteria. An efficiently managed coffee shop is operated in connection with the Hotel Stratford.

The Chancellor, Monroe, and Stratford hotels present a combined capacity of approximately 350 rooms which should be adequate to take care of our convention needs.

COMMERCIAL EXHIBITS

Companies and institutions which will have commercial exhibits in the second-floor lobby of the Chancellor Hotel at Parkersburg are as follows:

R. B. Davis Company, Hoboken, N. J.

Feick Brothers, Pittsburgh, Pa.

Columbus Pharmacal Company, Columbus, Ohio.

General Electric X-ray Corporation, Chicago.

Holland Rantos Company, New York City.

Petrolagar Laboratories, Inc., Chicago.

Kloman Instrument Company, Charleston and Washington, D. C.

Merrell-Soule Company, New York City.

Fremont Canning Company (Gerber Products), Fremont, Mich.

Kelley-Koett Mfg. Company, Covington, Ky.

James Picker, Inc., Cleveland, Ohio.

Max Wocher and Son Company, Cincinnati.

Mellins Food Company, Boston.

Universal Products Corporation, Philadelphia.

PAST PRESIDENTS

Date	*Place of Meeting*	*Name*
1867	Fairmont	W. J. Bates*
1867	Wheeling	John Frissell*
1868	Grafton	John Frissell*
1869	Clarksburg	H. W. Brock*
1870	Parkersburg	J. W. Ramsey*
1871	Martinsburg	W. J. Bland*
1872	Wheeling	J. M. Lazzell*
1873	Parkersburg	R. H. Cummins*
1874	Morgantown	M. S. Hall*
1875	Point Pleasant	M. Campbell*
1876	Wheeling	A. R. Barbee*
1877	Clarksburg	E. A. Hildreth, Sr.*
1878	Weston	J. W. McSherry*
1879	Martinsburg	W. H. Sharp*
1880	Parkersburg	W. M. Dent*
1881	Wheeling	W. F. Van Kirk*
1882	Wheeling	J. E. Reeves*
1883	Grafton	B. W. Allen*
1884	Clarksburg	A. Gerstell*
1885	Weston	George Baird*
1886	Charleston	T. A. Harris*
1887	White Sulphur Springs	S. L. Jepson*
1888	Huntington	L. S. Brock*
1889	White Sulphur Springs	L. D. Wilson*
1890	Wheeling	S. H. Austin*
1891	Fairmont	S. H. Brownfield*
1892	Clarksburg	C. Shriver*
1893	Parkersburg	D. P. Morgan*
1894	Berkeley Springs	R. W. Hazlett*
1895	Davis	D. Mayer*
1896	Wheeling	J. A. Campbell*
1897	Charleston	N. D. Baker*
1898	Martinsburg	C. F. Ulrich*
1899	Weston	J. L. Dickey*
1900	Morgantown	C. S. Hoffman*
1901	Grafton	A. H. Thayer*
1902	Parkersburg	G. A. Aschman*
1903	Charleston	H. B. Stout*
1904	Fairmont	T. L. Barber*
1905	Wheeling	T. M. Hood
1906	Webster Springs	S. S. Wade
1907	Huntington	W. W. Golden*
1908	Clarksburg	F. Howell
1909	Elkins	V. T. Churchman
1910	Parkersburg	T. W. Moore
1911	White Sulphur Springs	C. A. Wingerter
1912	Webster Springs	C. O. Henry
1913	Charleston	F. L. Hupp*
1914	Bluefield	R. E. Vening*
1915	Huntington	H. P. Linsz
1916	Wheeling	A. P. Butt
1917	Fairmont	J. E. Rader*
1918	Martinsburg	Sam Holroyd
1919	Clarksburg	Robt. J. Reed
1920	Parkersburg	H. R. Johnson
1921	Charleston	J. H. Anderson
1922	Huntington	Geo. A. MacQueen*
1923	Beckley	John N. Simpson
1924	Wheeling	R. A. Ashworth
1925	Bluefield	Geo. D. Jeffers
1926	Morgantown	James R. Bloss
1927	White Sulphur Springs	C. R. Ogden
1928	Fairmont	C. A. Ray
1929	Martinsburg	H. M. Hall*
1930	White Sulphur Springs	W. E. Vest
1931	Clarksburg	C. H. Maxwell

* Deceased.

SEEING THREE WAYS IS FUNCTION OF NORMAL EYES

"Seeing three ways" is possible for any person with two good eyes. To state it differently, the eyes have a threefold function: (1) central or sharp vision, (2) peripheral or side vision, and (3) binocular or two-eyed single vision, Dr. H. H. Glosser maintains in an article appearing in the June issue of *Hygeia*, the Health Magazine.

Central vision is that which one uses when looking directly at an object, whether it is far or near. Peripheral vision constitutes the ability of the eye to see objects not in the line of vision. The third form of vision, binocular, is accomplished by looking at an object with both eyes open. Two-eyed single vision serves the purpose of determining distance; it gives depth perception or perspective. These three are all active at one time, whether one is walking along the street or driving a car.

GOITER MEETING

The annual meeting of the American Association for the Study of Goiter will take place at Hamilton, Ontario, June 14, 15, 16, 1932.

The program provides for hospital clinics beginning at 7:15 each morning and so-called day clinics from 10 o'clock on. Many surgeons whose names are associated with the goiter problem in Canada and the United States appear on the program. Minnesota participants include Drs. C. H. Mayo, H. S. Plummer and F. W. Rankin of Rochester, and C. O. Rice of Minneapolis.

WOMAN'S AUXILARY

KANAWHA AUXILIARY

The Woman's Auxiliary to the Kanawha Medical Society has reported a most successful series of meetings during the present year. Activities were opened on January 12 with a tea at the home of Mrs. Ira P. Champe, Sr., with sixty members in attendance. In the receiving line were Mrs. C. E. Copeland, president; Mrs. U. G. Rohr, first vice-president; Mrs. M. J. Goldman, second vice-president; Mrs. O. L. Aultz, third vice-president; Mrs. Preston Champe, Jr., recording secretary; Mrs. H. D. W. Garred, corresponding secretary; and Mrs. E. V. Jordan, treasurer.

The second meeting was held at the home of Mrs. John W. Moore with forty members present. The third meeting was held at the home of Mrs. H. W. D. Garred. Mrs. R. E. Woodall entertained at the fourth meeting. At the fifth meeting, talks were given by members of the Kanawha Medical Society on subjects of practical interest to Auxiliary members. The Auxiliary meetings are held on the same evening with the meetings of the Kanawha Medical Society and this arrangement has been found very satisfactory. Musical programs, discussions, and refreshments have featured all of the meetings.

The success of the Kanawha Medical Society Auxiliary this year has been partly due to the work of the various active committees. First in importance is the program committee, which arranges the programs and the place of meeting. Then comes the membership committee and the telephone committee. The latter committee telephones each Auxiliary member a few days prior to each meeting to ascertain the number who expect to be present.

There are five hostesses for each meeting who furnish and serve the refreshments. The legislative committee hopes to be of service to the Kanawha Medical Society at the next legislative session. The philanthropic committee is composed of two divisions. The first division consists of eleven members with Mrs. J. E. Cannaday, chairman. This division recently raised money to fit up a dispensary in the Davis Child's Selter at Charleston. Mrs. T. M. Barber is chairman of the second division, which consists of thirteen members. This division has collected a quantity of canned fruit, books, and clothing for Hill Crest Tuberculosis Sanitarium.

Mrs. R. H. Walker and Mrs. John Thames are chairmen of the health committee, which is making a determined effort to place the health magazine, *Hygeia*, in schools, libraries, and homes.

The last meeting of the Kanawha Auxiliary will be entirely social and will be a luncheon. Work will then be suspended until September. The Kanawha Auxiliary has forty-five paid-up members

PLANS FOR PARKERSBURG

The annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association will officially open at Parkersburg at 9:30 o'clock on the morning of June 21 with a session of the Executive Board at the Chancellor Hotel. The registration booth will open the same morning and there will be an opportunity for doctors' wives to pay state dues of one dollar and thereby become members-at-large of the state Auxiliary.

County officers who desire conferences with state officers at the Parkersburg meeting are urged to get in touch with Mrs. S. S. Hall, Fairmont, so that such conferences may be arranged in advance. The Auxiliary feels that much mutual benefit can be derived from such conferences and much of the years' work greatly expedited.

It has been announced that members-at-large, who join the state Auxiliary direct, will have all privileges of county Auxiliary members except that of representation on the executive board. The number of members-at-large is growing fast and several county auxiliaries are expected to be formed from this group.

At noon on June 21 a subscription luncheon will be held, followed by the first general session of the Auxiliary. Speakers at this general session will include Dr. Albert H. Hoge of Bluefield, President of the West Virginia State Medical Association; Dr. W. E. Vest, Huntington; Dr. R. H. Boice, Parkersburg; and Dr. B. S. Brake, Clarksburg, members of the Auxiliary advisory council.

The second general session will be held at 9:30 o'clock on Wednesday morning, June 22. An Auxiliary luncheon will be held at 12:30 o'clock, following the general meeting, at which time the new officers will be installed. This will conclude the scheduled program.

The hostess Auxiliary at Parkersburg is spending much time and thought on the comfort and entertainment of their guests and this year's conference promises to be the best ever.

MONTHLY MORBIDITY REPORT
BY COUNTIES

APRIL 1932	Whooping Cough	Chickenpox	Diphtheria	German Measles	Typhoid Fever	Tuberculosis, All Forms	Smallpox	Influenza	Measles	Meningitis Cer. Spi.	Poliomyelitis	Scarlet Fever
Berkeley	1		6			1		50				
Boone				8					24			
Braxton		12	4					13	12			
Brooke	4	1	2	1					3			10
Cabell			5			9			14			15
Calhoun	9							6				
Clay	10							13	87			
Doddridge	7					4		47	34			
Fayette	5	1	1	5		3	1	175	61	1		
Gilmer						1			7			2
Grant								10				1
Greenbrier	25		1					150	20			
Hancock	9					6						
Harrison	13	30	3			9	1		63			20
Jackson	21		1						23			
Jefferson	6	1				1		10	12			
Kanawha	34	7	6		2	6		15	455	1		9
Lewis	9					3			13			
Lincoln	2	3		2				5				1
Logan	1		1			13	1		15			4
Marion	1	4	2			6		2	264			7
Marshall	48	11	1			2			16			1
Mason	67				1	1		107	4			
Mercer	3	1	4					15	1	1		8
Mineral	12	5	1			5		148	5			11
Mingo	22	5		2		13	3			2		
Monongalia			3						92	2		3
Monroe	12							6				
Morgan				4				48				1
Nicholas			1					15				
Ohio	86	4			19	20			38		1	9
Pocahontas				1			1	5				
Preston					1	1			64			2
Putnam			3					5	30			3
Raleigh		1	3	16		5			74			2
Randolph												1
Ritchie	7							3	14			
Roane									1			
Summers			1						25			2
Tucker												1
Tyler								5	12			1
Upshur												2
Wayne	4	2			1			2				
Webster	8	3		1		2		18	9	1		
Wetzel	14		1	3				18	70	1		
Wirt				6								
Wood	8	2	1			14	1		62			2
Wyoming	9	11				1		78	85			1
Totals	457	104	51	49	24	126	8	969	1709	9	1	119

The West Virginia Medical Journal

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[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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PRESIDENT'S ANNUAL ADDRESS *
A MEDICAL RETROSPECT

By ALBERT H. HOGE, M.D.
President, West Virginia State Medical Association
Bluefield, W. Va.

EACH YEAR it has been customary for your President to appear before you during the annual meeting to discuss the activities, aims, and hopes of our Association.

In the past recommendations have been made that have greatly strengthened and further increased the public confidence in our profession.

It is also gratifying to know that we are becoming a more vital factor each year in state affairs. For this we are much indebted to those who have guided our destinies in the past.

This year the pleasant duty of addressing you falls upon me. To appear before this body as its elected head is, indeed, an honor which one can not but feel is the culmination of one's highest ambition.

Before proceeding further, I wish to express to the physicians of Parkersburg my thanks for the excellent hospitality they have shown and also to the members of the various committees who have served with me, whose loyalty and unselfishness cause me to be ever grateful. I shall be grateful always for the many evidences of encouragement shown by our membership. Especially do I wish to extend my gratitude to our Executive Secretary, Joe Savage, whose tireless efforts in behalf of our Association have made my work a pleasure rather than a task.

The reports of the various activities of the Association will be given to you in detail by the proper persons and will not be dealt with now.

We are all conscious of the general depression throughout the world. It seems to be causing more criticism of our profession than ever before. That we are attempting to render the same efficient service to the millions of unemployed as when they were employed can not be denied. We have always felt a certain pride in rendering free service to the less fortunate.

A small portion of our population is amply able to pay for any services rendered, while others can not pay and must be classed as charity. The greater bulk of our population remains between these extremes—those who can not reach the first class and do not want to be placed in the second. It is the medical and hospital care of this so-called middle or

* Presented before the West Virginia State Medical Association at Parkersburg on June 21, 1932.

working class that is causing so much controversy. The fact that millions of wage-earners are barely able to earn enough to meet the necessities of life makes it imperative that we adjust ourselves to changed conditions. If we do not meet these revolutionary changes in industry, we are inviting other agencies to adjust our affairs for us.

We live and practice in a state consisting of many forms of industry, yet have not, as an Association, attempted to deal with the problem of industrial medicine. This has necessitated, from the very beginning of our industrial development, a form of practice organized by and necessary for the very existence of industry. Many abuses have arisen in this form of work, some of which will be outlined. We, who represent organized medicine in this state, should not be too critical. Many of the abuses could have been prevented had we coöperated with, rather than opposed industrial medicine.

Regardless of our preferences, certain things are inevitable. Industrial medicine and surgery in some form in the state is here to remain, regardless of how we may feel about it. It should be considered as a highly specialized form of work entirely different from the general practice of medicine.

The open hostility of organized medicine to this specialty has been a distinct detriment to its proper development. Not being supported, it has, of necessity, formulated rules of conduct according to its individual needs. This has resulted in many men of very inferior quality entering this field. The better class of physicians engaged in this form of practice are members of our Association. Many of these physicians wonder if their membership is welcome.

In order to better clarify the subject, a brief review of industrial medicine in West Virginia will be given. Certain recommendations will then be offered for your consideration. They will be presented in great humility because the more thoroughly one studies the question, the more difficult seems the solution. It is hoped that this may be but the beginning of the solution of a problem that will create a better feeling and understanding among our membership and result in closer coöperation.

In the earlier industrial development of our state many corporations, in order to insure proper medical care of their employees, imported physicians and deducted a certain amount each month from the employee to pay them. This method assured medical and surgical care of the employee and also served as a protection to the employer. This form of practice still prevails in most of the mining sections and lumber plants. That it is not an ideal form of practice, most physicians will agree. Yet, it is so necessary that great suffering would follow any other method of handling these people.

Abuses have arisen, however, that should be corrected. Some corporations deduct an amount for the physician each month. A portion of this is paid to him in the form of a salary. The remainder is put into the profits of the corporation. They are guilty of profiteering on the sick fund of their employees. One can see very little difference here from one of our great American pastimes known as racketeering. These corporations are practicing medicine without a license and should be prosecuted. On behalf of those fine men who have spent the best part of their lives practicing under many adverse circumstances doing their work, we owe our sincere thanks and appreciation. They submit to many conditions that we, in private practice, would not tolerate.

I wish, therefore, to recommend to our Association that we approve of contract practice in so far as it applies to the local physician whose compensation comes from an amount deducted from each employee on the payroll. I further recommend that we condemn the method of deducting a certain amount from the employee, paying the physician a salary and placing the balance into profits of the corporation.

About the year 1889, a layman, George W. Peterkin, the first Episcopal Bishop of West Virginia and a man beloved by all who knew

him, started a movement in this state destined to cause a great deal of controversy. Because there were no hospitals to care for the miners anywhere in the southern part of the state and realizing the great suffering resulting from this condition, he organized and built on the banks of the Kanawha River what was known as "Sheltering Arms Hospital." It was supported by miners, operators, pay patients, churches, and private contributions. Each miner paid fifteen cents per month. This assured him and his family, whether sick or injured, the privilege of hospital wards. Some of the great surgeons of our state are products of this hospital. The building still stands, although closed about 1920, because it could no longer be supported under changed conditions.

During 1901 the state built three hospitals for the care of miners, located at Welch, McKendrie, and Fairmont. These were known as Miners' Hospitals Nos.1, 2, and 3. They assured adequate care of miners and their families in the southern, central, and northern fields. Later, many private hospitals were built throughout these areas to meet the ever-increasing industrial development and increased growth in population; also, because the State Legislature had passed a Workmen's Compensation Law in 1913 that would compel the various industries to care for their injured employees. The passage of this law and the fact that sufficient private and municipal hospitals were now in existence to handle this work should have made it unnecessary for the state to longer operate its hospitals. They are, however, still in existence, operating in open competition to the private ones and running on the same basis, except that the taxpayers are compelled to contribute huge sums each year to make up their deficit. Every privately owned hospital in the state must contribute taxes to help support those operated by the state.

From these great humane movements there has developed in the southern part of the state what is known as a contract hospital system. Under this plan individual hospitals agree to care for the employees and members of their families for a fixed amount each month. One must believe that originally most of these hospital owners felt that they were rendering good service for an amount within reach of all. The amount originally charged each employee was sufficient to justify competent service, but during the past decade many abuses have developed in this line. Hospitals have been built in the area mentioned for no other reason than to bid for this kind of work. There has developed such a competition that each man or group has formulated its own rules of conduct, resulting in one group deliberately underbidding another in the cutting of prices, and in some cases the employing of solicitors for additional business. These institutions have necessarily become highly commercialized. Most of these contracts are drawn between the hospital and the company officials. Seldom does the employee, who is paying the entire bill, have a voice in selecting the hospital.

Our compensation laws provide that $800 may be spent for medical, surgical, and hospital care of the injured employee; also, that $600 additional may be spent for rehabilitating an individual. Under the present contract hospital plan not one dollar of the amount is available for him. The corporation is entirely relieved of the duty of furnishing hospital or surgical care to any injured employee. Members of our profession and hospitals adjacent to such territory are denied the opportunity to treat those injured because they must go to a designated hospital, regardless of their wishes. The contract hospital doing this work receives no compensation for treating any injured employee except the monthly check from the pay-roll. Each day spent in that hospital by an injured employee is a complete loss to the institution. It is no wonder that some are sent home before it is safe to go, while others receive no hospital care when in need of it.

Another very serious objection to this form of practice is that the injured employee has no appeal, nor assistance, from the Compen-

sation Department in selecting another hospital or surgeon because of improper attention. If he goes to another in order to save his life or limb, he must personally bear all his expenses. This system has so many abuses that it might well be referred to as industrial peonage.

The very basic principles for which the compensation laws were passed are rendered null and void by such contracts. The injured man is denied the choice of physician or hospital. The corporation is relieved of the burden of caring for the injured, this expense being borne by the employee. Physicians and hospitals are denied the opportunity to collect fees that are justly and legally due them. Several states make it a misdemeanor for the employer to apply any part of a payroll deduction toward the payment for hospital care for industrial injuries that belong under the compensation acts of those states. If it be illegal in some states, why should it be legalized in ours? Forcing an illegal contract upon a man makes him a slave.

Many physicians working under this plan are forced to do a great deal of work for little or no remuneration in order to maintain their positions on the staff of these hospitals, otherwise they would be denied hospital facilities in treating their private patients. The only ones who profit by the operation of list hospitals are their owners and the corporations who make the contracts.

Coal operators and other industrialists have controlled the economic, legislative, and political activities of our state for many years. Today we face a threatened enslavement of our profession by this same group. Surely we have reached a place in our existence to demand a cleaning-up in our profession. Too long have we listened to a pacifist group, always fearful to make or suggest a means to break away from an impending bondage, for fear of incurring the ill-will of the coal interests. Shall we, as a profession, stand by without offering a protest, while a few commercial-minded owners of private hospitals, using a system of bartering, gain control of the practice of medicine in our state?

We are living in a democracy; therefore, people are entitled to the choice of physician or hospital the same as they are to free speech and choice of religion.

Physicians and hospitals for generations have obtained their patients because of the merit and skill shown by them. Our code of ethics formulated before the birth of Christ has been kept intact throughout this period. Are we who represent the great majority of our profession, willing to stand by while a small minority tear down those structures that have become a heritage? Is commercialism, known for its merciless dealings with competitors, and whose ethics are based on selfishness, to control our destiny? If so, those of us who believe in individual rights, and desire to continue to practice medicine along established rules and according to our own code of ethics should welcome state medicine. It would be far more desirable to submit to government supervision with equal rights for all than to have industrial control of our profession, which would result in professional peonage for many of us.

Our societies have long been aware of the controversies over contract practice, but for some reason have ignored them. If we are to maintain our prestige, we must meet these issues, discuss them and establish in our state a definite, correct method of practice and see that it is lived up to. This may not be a pleasant duty. Duty is not necessarily a pleasant task, but one that should not be evaded.

I recommend that this Association go on record as opposing any plan or system that has for its object a requirement that industrial employees contribute to a fund to help defray hospital, medical or surgical expenses for industrial injuries that properly belong under the State Compensation Act. I further recommend that we voice our opposition to "list" hospital practice as the same is now being conducted in our state.

I further recommend that we approve of a

method of collecting a certain sum each month from the employee for the establishment of a fund, known as a hospital fund, to insure proper hospital care for these workers and their families. The amount, however, should not be large enough to include industrial injuries, nor should it be paid to any hospital unless it renders specific service. This hospital fund should be kept by the particular industry that collects it. Out of this fund payment should be made for a ward bed, proper food, surgical dressings, drugs, nursing care, medical and surgical treatment, including x-ray and laboratory examinations. The patient should have the privilege of selecting the hospital he desires, providing that hospital meets the minimum requirements of the American College of Surgeons. Except in extreme emergencies, patients should not be accepted under this agreement unless they bring a certificate signed by the company physician or an official of the company. In order to maintain such a fund, we should agree on a maximum rate per day and require that all hospitals charge this fee. Persons desiring better than ward service can make their own arrangements with the hospital by paying the difference. Furthermore, since we are guaranteed the payment of all fees each month, a very substantial discount should be made from our professional charges to enable this fund to remain intact.

The arbitrary charges of physicians, surgeons, and specialists will be the greatest detriment to the proper carrying out of this plan. Our method of having a fixed fee for certain work, regardless of the individual's ability to pay, is rather antiquated. Under our rapidly changing economic conditions, it will become obsolete in the future. The statement is often heard, especially from surgeans and specialists, "If you can not pay my regular fee, I will do the work for nothing." This is not sound business and tends toward making poor citizenship by encouraging people of small means to seek charity in other lines.

The plan outlined to you is closely related to health insurance, a system in use in many foreign countries, although the principle is entirely different. Instead of government control, a condition we wish to avoid, we would have industry, the employee, and physician working together for a common cause, without government interference. This would assure all industrial employees and their families, when in need of service that can not be rendered by their local physician, the right to choose a physician or hospital as any other private patient.

Time will not permit a more detailed discussion of this matter. It is hoped that we may have a free and frank discussion during our present meeting. Many objections will probably be offered and are expected. Any method looking to a drastic reduction in fees will naturally meet with objections. The greater increase in work assured under this plan, along with a guarantee of payment of all fees in a short period, should justify a marked reduction in charges. One, well informed, can not deny that some form of legislation pertaining to state medicine is to be dealt with in the near future. Health insurance bills have been before the legislatures of several states during the past few months.

One who has followed the work of the Committee on the Costs of Medical Care, headed by a theoretical physician, can foresee that its recommendations will be for some form of health insurance. This may be insidious at first, but will aim for a later development of state medicine for our whole nation.

He who says, without qualification, that I am against health insurance or state medicine, or that I am for it, is speaking out of the great depths of ignorance or prejudice. There is no one form of health insurance, but many. Each country that has adopted it has different features, some good and some bad. Following an economic depression, such as we are now passing through, more attempts than ever before will be created for some form of relief for the sick. Economists claim that more than twenty-five per cent of the sick do not

at present receive adequate medical care. Regardless of the accuracy of such statements, we should not overlook the fact that cheap politicians are not necessarily interested in the accuracy of statements if the same can be used as an appeal to build up a larger patronage, hoping thereby to retain their offices.

Next year, in this state, we will have another regular session of the legislature, and it is reasonable to expect bills of a similar nature will be introduced. Shall we guide the makers of such laws or leave it to welfare workers or industrialists? This is a serious matter, requiring close coöperation and intelligent leadership if we are to continue to control our destiny.

There are conditions other than the economics of medicine that should receive serious consideration from our profession. Public health work has not received the wholehearted support which it is entitled from those engaged in general medicine.

I would feel disloyal to my profession and false to my convictions if I failed to express sincere thanks and gratitude to our State Health Commissioner, Dr. W. T. Henshaw. No one has done more, and few as much, to raise and improve the standards of practice in this state. Our profession is, indeed, fortunate to have at the head of the State Health Department a man not only well trained in that work, but one who has had years of experience in the general practice of medicine; therefore, familiar with the problems confronting us.

No program of public health, however elaborate, can succeed without a clinically-minded pilot at the helm and without the coöperation of the whole clinical profession of medicine. Dr. Henshaw has always stood firm and uncompromising in championing the rights of those engaged in clinical medicine. His department is deserving of our hearty support.

During the last session of the legislature, a Department of Public Welfare was created. Its activities include a supervision of statewide charities, a worthy cause. Just why this department should have supervision of crippled children work, with its many ramifications, is one of the many unsolved problems before us today. The director of this department, who is a nice young man, was engaged in newspaper work before undertaking the supervision of several thousand of the state's wards. He has had no medical training and is, therefore, not qualified to direct the activities and care of the sick of the state. Yet, notwithstanding his lack of understanding of the needs of the state's patients, he is said to be campaigning for a legislative enactment that will place the state insane asylums under his jurisdiction. If we receive the relief promised by some of the present candidates for office, then such departments as this will not be administered as such, but will become units of the Health Department where they should be.

The salary of this young man, who directs the welfare department, is the same as that received by the State Health Commissioner.

The care and supervision of all state activities pertaining to the sick, and more especially to the state hospitals, should be under the direction of the State Health Department, and until this is brought about, the unfortunate conditions now existing in some state institutions will continue. Until this is accomplished, the treatment carried out by some who are totally incompetent will continue to be mockery.

The various institutions for caring for the sick and unfortunates in this state should be thoroughly investigated. In all three of the insane asylums caring for white patients, there has been for several years so much overcrowding that proper care is rendered impossible. With few exceptions, nothing is being done toward the cure of these people. The laboratories and other equipment is inadequate to render the best possible service, yet the successful treatment of insanity in up-to-date institutions is based largely on the treatment of the physical being. The medical superintendents of our state institutions are required to act as business managers and to attend to many other activities, leaving little,

if any, time for them to study their patients. The appointment of the medical staffs of these institutions is made by the Governor. For many years, these selections are frequently made more for political expediency than because of the ability of the appointee. The type of work being carried out by the superintendents has but to meet with the approval of the Governor and the Board of Control, all of whom are laymen.

In other words, these medical institutions have lay supervision, for in the final analysis the responsibility for the several thousand patients in our state institutions is in the hands of a lay group. We maintain qualified inspectors for livestock, banks, hotels, coal mines, weight and scale checks, and many others. Insane patients should be entitled to the same careful study, consideration and treatment that is rendered physical cases. There is no reason why state hospitals should not be run on the same basis as general hospitals and according to the same standards. High standards will not be obtained as long as they are operated more for the payment of political debts than for the welfare of the sick. There is no need now, nor has there ever been one, why our state should operate four institutions for the care of the insane. One, or at most two, could handle them far more economically. To maintain four, scientifically operated, would be too much of a burden on the taxpayers.

Investigation of these institutions have been made in the past. The findings are filed away somewhere in our capitol. The contents have not been made public. The conduct of these institutions should be open to the inspection of the citizens of our state who pay for their operation. Any investigation made of them and the contents kept secret will not tend to increase their efficiency.

Under present laws, the Public Health Council has no authority to as much as inspect the type of work being done, except that of the tubercular sanitoria. Political and lay control of our state institutions will always result in inefficient service to the people confined therein. Such a condition, if allowed to continue, will result in a very high per capita cost, with very little to show for the money spent. Regardless of the amount spent, those patients will not receive the best possible care so long as those selected to treat them are chosen by politicians and laymen. They are not competent to do this, however honest and sincere they may be.

I recommend to you that we attempt, at the next session of the legislature, to get a change in our laws that would cause the Public Health Council to make a thorough investigation, at least once a year, of all state institutions housing the sick. A copy of their report should be filed with the Governor and one copy with the West Virginia State Medical Association. Their findings should be open to inspection at all times to any citizen of the state.

Further, I recommend that the law be changed so that all the medical staffs at state institutions be approved by the same council before being eligible to serve.

I am assured by some of the superintendents who are attempting to render the best service possible that such an arrangement would be of vast assistance to them. Through this official agency the public would have a better understanding of the treatment rendered in these institutions. This better understanding on the part of the public would go a long way toward re-establishing their confidence in those institutions.

We have, for many generations, been looked upon as a group, ready and anxious to help the poor and needy and ever willing to champion the cause of the weak and downtrodden. These sick and unfortunates were once our private patients; we owe them a debt that will remain unpaid, and one that will stand charged to the medical profession unless we do all in our power to see that these former patients are receiving the very best attention possible from the state.

Idealism, fortitude, and loyalty have al-

ways been dominant characteristics in members of our profession, but during the last decade many revolutionary changes have taken place in the industrial world; men, god-fearing and godless, shoulder to shoulder, have fought relentlessly for their gold, and ethical deterioration has been the lot of every profession.

So much had been written and spoken about the future of big-business and the so-called intellectual giants who controlled it, that members of every profession had begun to believe that truly a new era had arrived. Many were taken high up in the tower of the business world, permitted to view the Promised Land, and made to believe that power and financial independence were theirs if they would desert the principles and ideals of their profession. Being human and living in an age of moral sacrifice, many viewed and a few gained all that was promised. We should have learned by now that the false gods of our ideals, the gods of size and speed, have proven powerless to help us. Bigness has afforded us no lasting happiness and speed, no economic security; hastily gained knowledge, no wisdom; and swiftly moving pleasures, no serenity.

We should profit by these facts and promise ourselves that we will not in the future take an unfair advantage of our competitors. It is proper by legitimate means to increase our practice whenever possible. In so doing, we ought to do nothing that will injure those engaged in similar occupations and that will, in any way, aid to destroy the confidence which physicians must repose in one another; nor should we, by individual acts, help destroy the confidence and respect which the community has in our profession. If we are to thrive in the future, let us remember that we can not thrive separately, but must either prosper together or all suffer disaster. With these thoughts, may I suggest that we should re-affirm our faith at the altars of simplicity, sobriety, and a better human understanding. To accomplish this, we should increase our faith in ourselves and in our fellow-man, and denying the false gods that have been offered us, return to worship at the simple altar of One, whose prophisies have not been false and whose daily life will for all time be a model.

SOME PHASES OF THE HEALING PROCESS IN TUBERCULOSIS *

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IT IS manifestly difficult, well nigh impossible, to understand the processes of repair or healing of disease without at least a fairly general idea of the nature and purpose, if you will, of the pathology thereof. In the limits of time allowed me, it is evidently quite impossible to attempt any comprehensive or really adequate discussion of the pathology of tuberculosis, and still leave any time for my real topic; and yet so vital to a proper understanding of the healing processes in tuberculosis is an understanding of its pathology, I must refer to it, albeit insufficiently and much too briefly.

To begin with, when the tubercle bacillus enters the tissues of the human (or animal) body for the first time, a certain train of events invariably happens. Being a foreign substance and one possessing a highly protective waxy capsule, the tissues react, as is their custom, to any such foreign insult. An immediate encystment process begins, quite evidently nature's effort at isolation from the general system of a noxious agent. Without elaboration, there is the immediate development of the avascular structure, details of

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which it is unnecessary to go into here, which we call the tubercle. Please remember that this structure is nodular, its outer layers fibrous,—a proliferative and purposefully a protective process. Fortunately, for the large majority of human beings, this is where the story ends so far as the development of disease is concerned.

However, almost immediately after the entrance of a sufficient number of live tubercle bacilli into the body,—say within five to ten, certainly within fifteen to twenty days,—(if controlled animal experimentation can be relied upon as a guide for conclusions as to human tissue reactions; and I think they may from the similarity of animal and human response to the disease,) there develops a tissue sensitiveness which we speak of as tissue

CASE I.

Mr. M., male, age 24. Fairly acute fulminant history of six weeks. October 2, 1926. Complete left si ed tuberculous involvement: cavity in second interspace; pneumonic consolidation midfield; slight extension to right upper.

allergy. Its manifestations we speak of as allergic reaction. The essential of any allergic reaction is exudation, which, of course, means inflammation in solid structures, effusion in serous cavities. At the present writing, it is quite commonly assumed that the symptoms of the *disease* tuberculosis, which we treat, are the response of allergic tissue to reinfection, which, of course, generally means extension of already existing infection, though this reinfection may be of exogenous origin. The ultimate course of the pathology depends naturally upon the *degree* of the allergic reaction. If mild, perhaps only inflammation and rapidly resolved exudation may ensue; but unfortunately in the greater number of patients, a more extensive process takes place,

October 2, 1929. Complete disappearance of cavity; slight fibrosis in area of former consolidation.

with necrosis, caseation, suppuration, and the all-too-frequent formation of cavity. Years ago the study of the possible rôle of mixed infection in the production of necrosis and suppuration imbued me with the belief that the tubercle bacillus alone can and does produce every lesion we know in tuberculosis, though I am not prepared categorically to deny the possibility of mixed infection playing a rôle in the prolongation of the symptomatology, or to say that it may not play any part in symptomatology. Certainly the usual cold abscess may be cited in proof of the position that the tubercle bacillus needs no aid in its production of suppurative lesions, naturally preceded by necrotic processes. Suffice it to say then, that the mere presence of other bacteria than tubercle bacilli in tuber-

culous foci is no proof of etiological relationship to the pathology.

It would, therefore, seem as though an inevitable cycle of pathological events happens when the human body is invaded by the tubercle bacillus. There is the natural response of nodular tubercle, a proliferative and protective effort and a newly acquired property of exudative response as a result thereof. Upon the establishment of allegry, as pointed

CASE II.

Mrs. B., age 26. Weight 93 pounds. Pregnancy. Therapeutic interruption. May 19, 1926. Tuberculous infiltration and cavitation right upper lobe. Well marked wall to cavity.

out by Krause[1], a distinctly prompter proliferative response in the development of new nodular tubercle upon reinfection than is seen in first infection takes place; and, furthermore, already existing tubercle may undergo marked allergic response with acute perifocal inflammation and a marked stimulation of the fibrotic envelope. Which of the two shall be dominant determines the issue,—hence the usual classification of the productive or fibrotic case and the exudative with its end products of inflammation terminating by resolution or lost tissue and proliferation or fibrosis, though a large majority of cases under treatment are a mixture of the two. The thesis that *allergy* eventually stimulates fibrosis has been so well put by Krause as to need no repetition here. What I wish mainly to leave with you in this brief introduction is the thought of the tendency of tuberculous pathology to fibrotic change or inflammatory response, both protective and at the same time within limits the patient's best hope of recovery. That we can not largely modify, control, or specifically influence these factors safely and surely, adds to the difficulty of a cure; and yet under the well known, if not always intelligently applied, rules of the game, such astonishing results are produced by nature, under the proper conditions, that I no longer hesitate in the use of the term *cure* of tuberculosis.

It is quite true that formerly such a term embraced the concept of only a return to social and economic rehabilitation, with the added proviso that certain handicaps must be

October 24, 1929. Weight 133 pounds. Complete disappearance of cavity, with absorption of most of its wall.

accepted and endured. Fortunately, the now quite general use of the serial film in tracing the progress of the disease has confirmed the knowledge gained in the laboratory and the experimental animal of its pathogenesis and the recession of the pathology, so that the cure of tuberculosis in certain given and quite fortunate instances is a physiological as well as an anatomical fact.

At this point, it may well be mentioned that unfortunately there is no exact parallel-

ism between receding pathology, as observed in the film, and symptomatology and physical signs. Symptoms cease many times long before the film or the signs would so indicate; and adventitious signs have a persistence even beyond the discovery of existing pathology by the film. Without elaborating the thought, I believe the explanation lies in the fact that certain pathological changes of sufficient moment to produce physical signs may yet be radiolucent, and hence produce no demonstrable shadow on the film. And, to add to the complexity of the situation, there are still those rare but undoubted cases that shed bacilli quite constantly, and yet present no demonstrable evidence of disease to either the ray or the physical examination. If then, clinical changes do not parallel anatomico-pathological ones; if clinical progress is not synonymous with pathological regression; and

CASE III.

Mrs. H., age 57. June 19, 1926. Complete right sided involvement, fibrocavernous; definite cavity in upper lobe; suggestive one in the lower.

if pathological recession does not always mean symptomatic or clinical progress, what are the evidences of healing? The only answer, in brief, is *seeing the case whole*,—the correlation of clinical progress as manifested by symptoms, with laboratory, radiological, and physical data—not always an easy task.

You may well then ask what determines healing in the tuberculous lung beyond the extraneous and controllable factors in the cure? By these latter, of course, I mean location, environment, physical care, capacity and opportunity for "taking the cure," dietary and general hygenic measures; above all, rest in the full sense of the word, etc. Nor am I concerned here with a discussion of those particular attributes of the parasite that cause

September 20, 1927. Complete clearing of all pathological findings, save a slight fibrous band.

the progress of the infection or the varying degrees of virulence possessed by various strains of bacilli, though massiveness of dosage is manifestly a most important factor in the determination of the result, as is also the geographical location of the lesion in the lungs. By this latter statement, I mean for you to recall briefly what happens when a tubercle is in proximity to a blood vessel, a bronchus, or the thoracic duct; and, by some mischance—perhaps the result of undue physical effort—this tubercle enters one of these channels. A broken blood vessel, and for the patient the terrifying experience of hemoptyses, and generally an acute illness, at least for a time. A bronchogenic invasion and the terrible catastrophe of tuberculous penumonia; rupture into the thoracic duct, and generalized miliary tuberculosis.

To repeat the query then, what is the story of the healing of a tuberculous lung? Is it because of immunity or high resistance, so called? These seem like simple words, but

what is their meaning? I know of no disease in which such terminology is more loosely applied than in tuberculosis, nor in which it assumes such an utter dissimilarity of meanings and such a variety of contrary concepts. For instance, as Pinner[2] has recently pointed out, in discussing the chaotic writing and thinking about immunity, "the following phenomena are considered as proof of existing immunity: (1) absence of demonstrable reaction; (2) increased reaction (as compared with nonimmune controls,) locally or generally; (3) decreased reaction; (4) acute death; (5) final survival after (1), (2), or (3) may have occurred, etc.; (6) the presence in the blood of so called antibodies, such as antitoxins, agglutinins, opsonins, etc."

Of one thing we may be reasonably sure in tuberculosis: that immunity exists only in the allergized animal and that immunity and allergy are produced by and dependent on the same condition. It would further seem to be true that fibrosis—one of nature's sovereign methods of healing—only occurs in allergic tissues, while "fixation" of bacilli, which undoubtedly plays a rôle in the production of immunity in tuberculosis, is a phase of the allergic reaction. I am not prepared to discuss the parallelism of allergy and immunity in tuberculosis; it would lead us far afield and into philological as well as biological labyrinths. However, it must be pointed out that as at present understood, however greatly to be desired is *high immunity* to tuberculosis, (as understood in its most generally accepted meaning of a capacity to withstand and overcome the disease,) this by no means assumes that a state of *high allergy* is more conducive to this happy state than one of *low allergy*. While it would seem that rapid resolution of exudative processes is best achieved in the condition under which it occurs, to-wit: high allergy, it is by no means certain whether fibrosis develops best under conditions of high or low allergy. Fortunately, in most patients, both processes seem to proceed at the same time, so that it would appear that both resolution and fibrosis may proceed under the same conditions of allergy.

Omitting theory and further discussion of the mooted parallelism or disparity of immunity and allergy in tuberculosis, this much may confidently be said: that no inherent, native immunity to tuberculosis has been proven to exist; for, since the only immune animal or man to tuberculosis is the one who has developed anatomical tubercle, it is obviously true that there is no such thing as natural resistance to tuberculosis in the sense of protecting, immune substances born into the body, which will protect against and neutralize tubercle bacilli that have gained entrance into the body. As no one has ever isolated a tuberculo-toxin, (an entirely different matter from the dissociated proteins of tubercle bacilli, which are tuberculins,) so we find in the blood no immune substances. Whatever then be the nature of this immunity in tuberculosis, it can never be said to be complete. It varies at different times and under different stresses. It sometimes protects from further spread of clinical disease and again is sadly wanting. It is, therefore, relative, not absolute; hence the well known complex of progress and regress, improvement and relapse that tax the sick man's courage and patience and the doctor's skill and experience.

In speaking of resistance, mention was made of the location of tubercle as an important factor. To this should be stressed here the mechanical factors of resistance offered by the barrier of the anatomical structure of the tubercle, with its poor vascular and lymphatic connection with other tissues; in other words, protection from tubercle is in direct ratio to the integrity of the investing envelope and its ability to prevent interchange between it and surrounding tissues. Phagocytosis must play a not unimportant part in the story of the healing of tuberculosis; but I must content myself with only this brief mention of it, with the additional remark that until further experimental work has made more likely its usefulness and justification, I do not subscribe to the attempt

to increase this by the more or less indiscriminate use of hydrochloric acid intravenously. Allergized tissue has a quite definite power to retard the dissemination of bacilli,—a factor of no mean importance, though whether this can be influenced satisfactorily is questionable. Furthermore, in the ordinary case of tuberculosis, there is constantly going on the process of repeated desensitization to bacillary and other proteins. This, incidentally, is the whole basis of tuberculin therapy, which can never be a *whole cure* for tuberculosis; and, in my hands, has had such a limited usefulness that it has practically fallen into therapeutic desuetude.

Nature is quite zealous in the repair of destroyed tissue, and this is quite apparent in tuberculosis. For example, the opening of a cavity into a bronchus may be succeeded by peripheral fibrosis, which may reach considerable thickness and toughness; and, granting the fortuitous result that the interior of the cavity becomes free of bacilli, the entire cavity may be replaced by fibrosis. Other cavities that have walls whose nature is more (or less) inflammatory than fibrotic may completely disappear, as I shall show you in the slides. This is not the place nor the time to discuss the question of annular shadows and their disappearance as well as their significance. While the pathologist will tell you that he has never seen a healed cavity, remember that he is dealing with material from the body of a victim of progressive and fatal disease. I hold that cavities of undoubted verity can and do resolve and disappear at times.

Calcific deposit, which is so frequently observed in chest films, is usually one of the beneficent means of the limitation of childhood infections. On occasions, but rarely, it plays an important part in the healing of adult tuberculosis, as I shall show you; and the patient remains well as long as his pneumoliths or broncholiths, with their fibrous coats, remain in situ. The danger of the expectoration of broncholiths is only that of hemorrhage or the possible tearing through, with bronchogenic spread, of adjacent caseous tubercle.

I now come to fibrosis and resolution, the two main methods of the healing of tuberculous disease. As graphically stated by Krause, into all tuberculous pathology, it matters not whether it be primary, elementary tubercle, cheesy deposit, pulmonary cavity, or pleural effusion, has gone either separately or together or seriatim in variable proportions:

(1) proliferation;
(2) exudation;
(3) necrosis, an anatomical end product of inflammation (exudation);
(4) fibrosis, an anatomical end product of proliferation.

If the process of tubercle is thus considered in its proper light of evolution, its tendency then is one of an effort at healing. If the proliferative sequence is dominant, the patient succeeds in the arrest of his disease by the development of fibrosis. His safety and security are in direct ratio to the strength and imperviousness of the fibrous investment which protects his tissues from interchange with the encysted tubercle, though he may be handicapped at times by the resulting pull, displacement, and limited capacity of a fibrotic lung.

If, on the other hand, healing has taken place by absorption or resolution largely, there is, of course, a nearer approach to a *restitutio ad integrum*, with enormously more successful anatomical and physiological results. Of course, the processes go hand in hand, and rarely do we see only one type of healing. This is, of course, to be expected, for those lesions which partake of an inflammatory or exudative nature are naturally those which undergo resolution, while the proliferative or fibrosing ones remain such, save for the absorption of their inflammatory elements. Unfortunately for the patient, resolution can not be predicted with precision; it can not be controlled; it can only be encouraged. That it should take place so well in the lung might have been deduced from the disappearance of tubercle in the eye, tes-

ticle, peritoneum, etc.; but it took the serial film to demonstrate it. It is the summum bonum in the cure of tuberculosis, and occasionally is achieved even in massive pathology, as I shall demonstrate.

In conclusion then: Tuberculosis is a curable disease in a sense beyond the socio-economic concept of twenty years ago even, and sometimes reaches the state of an anatomical and pathological cure.

A great many puzzling factors enter into the question of what is immunity in tuberculosis and how it is achieved.

The evolution of the tubercle is the key to the situation; and certain imponderables, the exact nature of which is unknown, determine whether healing shall be by one or more routes.

The slides shown represent only cases treated without the use of any compression factor whatever. No mention can naturally be made of those measures of control and treatment which materially modify and make possible the cure of tuberculosis.

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REDUCTION OF FRACTURES WITH LOCAL ANESTHETICS *

By R. H. WALKER, M.D.
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I HAVE CHOSEN for discussion this evening a simple subject, yet to me a very practical and important one. It is the use of local anesthesia in the treatment of fractures and dislocations.

In our enthusiasm for the spectacular we are very prone to neglect or overlook the simple practical remedies at hand. There seems to be ever prevalent an idea with many members of our profession that the more complex or complicated the procedure instituted and carried out in a given condition—presupposes the more efficient treatment or the more favorable psychological impression of the physician's importance made upon the patient or his friends.

If the latter is particularly desired in the treatment of fractures, I know of no better method than to use local anesthesia. To one who is not familiar with the effects of local anesthesia in fractures, the results when witnessed are truly astonishing to the patient and to the physician alike, in overcoming the muscular resistance, and painless reduction of the fracture, together with the full coöperation of the patient which is, indeed, of very great importance.

It is not a new remedy. It was first used by Conway, an American surgeon, in 1885. But owing to the toxicity of the drug used at that time its use was not popularized. Several prominent surgeons in this country and abroad have used it at intervals from 1885 to 1923.

Böhler, of the Accident Clinic of Vienna, worked out a practical technic and popularized its use. Böhler has a record of over 3,000 cases without any complications.

I started this method of anesthesia about eight years ago in an accidental manner. An old man was struck by an automobile which caused a compound fracture of the tibia and fibula. The end of the bones were protruding and he had severe laceration of the soft tissues. Due to the shock, he was given morphine and salt solution on admission to the hospital. Looking about for something more soothing than iodine, which is a vicious thing to apply as a dressing on the exposed bones and soft tissues, I saturated gauze sponges with one per cent novocaine and applied them as a dressing. I was much surprised and gratified when an hour later I

* Presented before the Central West Virginia Medical Society, at Richmond, on April 27, 1932

found that I could cleanse the wound and reduce the fracture without the use of any other anesthetic.

I was not compensated for my services in money, but this experience has paid me a thousand-fold in broadening my vision to the possibilities of the use of local anesthesia in fracture work, and has also made it possible to give relief to other unfortunates who have come under my care.

The chief difficulty in the reduction of fractures consists of muscular spasm which is caused by traumatized tissues.

In the past it has been assumed, as a matter of course, that a general anesthetic is the only way to overcome this muscular spasm, notwithstanding the evident disadvantage in that type of management. We have also to remember that while general anesthesia puts the patient to sleep it does not always produce complete muscular relaxation. It acts first on the higher centers of the central nervous system, and the relaxation of the limbs is the last phenomenon to arrive, if in fact it does arrive.

If the facts prove that local anesthesia effectively produces muscular relaxation and abolishes pain in the reduction of fractures, there can be no adequate reason for subjecting the patient to the more dangerous method of general and regional anesthesia.

The method I am about to describe is the immediate infiltration of the anesthetic drug without delay directly into the hematoma, which forms about the ends of the bones where the torn edges of the endosteum and periosteum absorb it and become impregnated with it.

The necessary apparatus should consist of a 20 c.c. Leur syringe, an assortment of needles, and a supply of the anesthetic drug, preferably one per cent nupercain, because of its more lasting effect. This drug can be procured in sterile ampoules ready for use.

There is usually no difficulty in determining the point most suitable for the injection. In cases where the deformity is slight or there is but little hematoma, flourscopic or x-ray examination before the injection of the drug will aid in locating the fracture gap.

The point of injection should be properly cleansed and painted with iodine. Occasionally when the fragments override each other it may be necessary to inject the anesthetic drug over each end.

Again, if two bones are broken, as for example the radius and ulna, the tibia and fibula, then injections must be made into each line of fracture.

In view of the fact that a fracture is usually attended by tearing and stripping of the periosteum from the bone, and traumatization of the soft parts, with loss of bone marrow and contents, it is evident that the hematoma would be more or less considerable about the injured area.

The aim is to make the injection directly into the hematoma which, as Böhler has pointed out, constitutes the finest possible diffffusion agent for a local anesthetic. The collection of blood is thus turned to good account and is made to work for the benefit of the patient.

The anesthesia is complete in from four to eight minutes and will last from two to three hours. Furthermore, it can be prolonged by a fresh injection, if circumstances make a prolonged manipulation or a secondary re-adjustment necessary. This makes it possible to carry out easily and painlessly any kind of manipulation that may be necessary for the reduction and retention of the fragments.

It also makes possible the intelligent coöperation of the patient. A matter of very great importance in connection with the use of the flouroscope, simplifying and broadening its use, in eliminating the danger of an inflammable anesthetic agent about the flouroscopic machine.

In applying traction, skin or skeletal for instance, to a fractured femur where a Thomas splint or a Balkan frame is used, the anesthetic permits painless manipulation while the various sundry adjustments of frame, weights, etc., are being perfected.

More particularly, it enables us completely or as nearly as possible, to reduce the fragments and maintain their position with minimum of weights. The position can be checked with a portable x-ray until we are satisfied with anatomical results.

Whereas, with the old methods several days are consumed in adjusting and re-adjusting, injuring and re-injuring the delicate tissues, checking and re-checking with x-ray until in many instances the patient as well as the surgeon is exhausted, and both are quite willing to leave the fragments alone even though they may not be in as good a position as they should be.

The patients on whom I have practiced this type of anesthesia have ranged in age from a few months to seventy-six years.

The procedure is particularly adapted to persons of advanced age to whom, for one reason or another, general anesthesia is contra-indicated.

Oftentimes patients suffering with fractures are in a state of shock incident to the injury, or have just eaten a hearty meal, which would contra-indicate a general anesthesia, at any rate for a few hours. These types of patients can be cared for immediately. The use of local anesthesia serves as a preventive of and treatment for shock.

It also has the advantage of shortening the period of hospitalization, in many cases to a few hours, which is a financial saving to the patient, and quite often to the hospital and physician.

In many instances it enables the laboring man to go on with his occupation while undergoing treatment. Furthermore, such aftercare as diathermy, massage, etc., is obviated in perhaps fifty per cent of the cases.

Another advantage is the fact that the entire procedure can be carried out single handed without the aid of an assistant or an anesthetist, which makes its use particularly helpful to the rural physician and to the family physician who still treats his fractures.

First aid treatment of injuries as sponsored by Chief Lambie of the Department of Mines on the whole has done much to reduce the shock, disability and death in the industrial life of our state. This type of patient is being admitted to our institutions in better condition than formerly.

I should like to strongly urge industrial physicians and surgeons to make it a matter of practice in addition to their usual first aid treatment to administer local anesthesia to fracture patients before transporting them to the hospital. It will prevent all pain, and lessen the shock incident to the injury and transportation.

Conclusions.—1. Local anesthesia in the treatment of fractures is a simple, safe, and efficient procedure.

2. It produces satisfactory muscular relaxation.

3. Dangers of a general anesthetic are eliminated.

4. The period of hospitalization is shortened, and the number of permanent disabilities is reduced.

5. It reduces pain and lessens the shock in the transportation of patients.

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TOLYSIN—NOT A NEW DRUG

Tolysin is simply the brand name of the Calco Chemical Company for neocinchophen, the ethyl ester of paramethyy phenylcinchoninic acid. The proprietary brand "Novatophan" was introduced in medicine long before Tolysin was made. Tolysin was the first brand of neocinchophen to be manufactured in the United States.—Jour. A.M.A., April 9, 1932, p. 1322.

PUBLIC HEALTH, ITS MEANING, HISTORY, EARLY PROBLEMS AND MODERN ACCOMPLISHMENTS *

By A. J. KEMPER, M.D., *Director,*
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PUBLIC HEALTH work is preventive work and deals with the application of such measures as will prevent the occurrence and spread of communicable diseases. This department can also render valuable assistance in its pre-school and school examinations by noting physical defects and nutritional disturbances that have not before been detected by the parents, and by recommending the consulting of the family physician relative to these defects and asking for his advice as to their correction. It is not intended, nor should it be intended, to interfere in the least with the confidential relationship of the family, who have for years placed themselves in the hands of the earnest and deserving family doctor; but it should be our aim to so coöperate with the people and the physicians of the county, that we will be able to carry out an effectual health program outlined by our State Health Department.

In order that we may have a more thorough knowledge of the true meaning of public health work and what it has done, we will give, in a brief way, some of its early history, problems, and modern accomplishments.

The history of medicine, as a whole, can be traced through many phases from the earliest civilizaztion up to the present. There can be no doubt that primitive man looked to some especially trained person for relief from his body ailments. The earliest physician covered his ignorance with witchcraft and probably satisfied his patients. However that may have been, medicine was a problem of curing a disease after its development. The crystalizezd idea of preventing disease is a truly modern phase and did not spring into life full-grown. Preventive medicine can not claim a real historical background, yet there can be traced through the past centuries some interesting facts which have surely had their influence on the present-day ideals.

It is interesting to note through ancient history that, where civilization reached its highest peaks, there was a better knowledge of hygiene and sanitation; again, where civilization waned and culture declined, personal health and personal cleanliness lost popularity. However, it must be admitted that such history as we can trace points to the development of sanitary ideas.

It has been said that no modern hygienic measure could be proposed but that its embryo could be found in ancient Jewish laws. The Hebrews had the idea of separating the lepers from those not affected, yet they failed to look after the comfort of the leper, who was merely shut away from other people.

In ancient Greece we find the almost perfect development of personal hygiene. The professional gymnast vied with the medical man in his knowledge of physiology and each became more proficient because of the rivalry. Diets were regulated for health and systems of exercise were evolved to prevent illness; personal cleanliness was taught, care of the skin and hair, rest and sleep were regulated, and massage and bathing directed.

In Rome, 494 B. C., the city was divided into four police districts with the sanitary functions; viz., repair of drains and public buildings, cleaning and paving of streets, prevention of nuisances from dangerous animals, supply of good grain for market and supervision of taverns. At a later period, Rome built a system of water works which is a work of engineering notable even today.

* Read before the January 7 meeting of the Harrison County Medical Society.

Had the personal hygiene of Greece and the sanitation of Rome survived and continued through the subsequent years, conditions would never have fallen to the level found during the Middle Ages. But in the minds of the people there was a change, a reaction against the pampered body arose in the sixth century. Bathing was considered ungodly, filth was popular, diet and clothing were insufficient and rough. With the accumulation of filth and neglect of the body, disease increased. When any kind of fever gained foothold, it became an epidemic. Its spread was uncontrolled, the people were in a panic and were unable to realize the cause and to prevent recurrences. The spread of leprosy at this time was appalling and it was not until the sixteenth century that leprosy died out in Northern Europe.

About the fourteenth century the bubonic plague presented another problem. In this disease, isolation was of no benefit and from this scourge grew the quarantine laws for ships and cargoes. Ships entering ports were held over for a period of time and cargoes were exposed to the sun and passengers not allowed to enter cities until a certain number of days had passed and until the cargoes were disinfected. All these were sane preventive measures, but in this special case of bubonic plague they ignored the rat population of the ship which played an all important part in transmitting the disease.

In 1350 France passed a legislative ordinance which provided that hogs should not be kept in cities, that streets should be cleaned, that butchers should not sell meat more than two days old in winter and one and a half days in summer, and that fish must be sold the same day they were caught.

About the same year in England, the pollution of the Thames River was a subject of official attention. Some laws were evidently speedily enforced for, only a few years later, the records show that the father of Shakespeare was twice arrested for not observing the rules of cleanliness.

Not only were France and England in such states of uncleanliness, but in our own New York City, filth had similarly accumulated. Garbage was thrown in the streets and sewers were obstructed. In general, conditions could hardly have been worse. Plagues and epidemics raged unstopped and uncontrolled. The medical profession had passed through trying stages and the clergy had become custodians of medical knowledge and helped to preserve it. At this stage something was obliged to happen. Conditions could not have been worse and be compatible with life. Reaction was inevitable, and to meet the situation two entirely new tendencies arose in the human mind; one, the development of the scientific spirit; and the other, the growth of a new motive—humanitarianism. The eighteenth century was noted for its scientific developments and also for a more general and thorough establishment of preventive medicine and hygiene. In spite of all the progress man has made since the beginning, it was not until the opening of the nineteenth century that his knowledge of the human body made the prevention of disease possible. Although in the early part of the eighteenth century the Turks appear to have been practicing for some time inoculation against smallpox, using the pus from the sores of smallpox patients, it was not until the close of this century that Edward Jenner, an eminent Englishman, established for the first time the use of vaccine from cowpox in the prevention of smallpox in human beings. With the discovery of smallpox vaccine by Jenner in 1796 began the banishment of this disease from every civilized country of the world in spite of the opposition it met. It was introduced in Boston in 1800, in New York City in 1801, and in that same year President Jefferson was vaccinated. The result was that smallpox which, according to the New York Medical Record of July, 1894, carried off over 50,000,000 persons in Europe during the eighteenth century and was the cause of one-tenth of all the deaths in New York City between 1785 and 1899, has been practically eliminated except in communities

where this procedure is neglected or where the people fail to resort or submit to vaccination.

Some fifty years after Jenner's discovery of smallpox vaccine, two Englishmen, William Budd and John Snow, began their remarkable studies of typhoid fever and Asiatic cholera, which in later years resulted in the control of these much dreaded and fatal diseases.

The first discovery of what later proved to be a disease producing germ was made in about the year 1850 by Davaine of France and was later confirmed by Robert Koch of Germany, to be the cause of disease. About the same time Louis Pasteur, a noted French chemist, through his persistent efforts, gave to the world a virus for those bitten by rabid animals.

In 1882, Robert Koch announced the discovery of the germ causing tuberculosis and in 1883 witnessed the discovery of the germ causing Asiatic cholera, and one year more brought the discovery of the germs of diphtheria, tetanus, and typhoid fever. Until recent years, yellow fever was considered among the dangerous diseases in the United States and was shunned in every way possible. It appeared in this country over one hundred times between 1702 and 1878 and was the most destructive disease to invade the southern states. During this period, the great epidemics were those of New Orleans in which there were over 290,000 cases and over 8,000 deaths, and Memphis with over 17,000 cases and over 5,000 deaths. Over four and one-half million dollars were contributed in 1878 for the relief of the cities of the South. The epidemics of that year cost the city of New Orleans over $10,000,000.

It was later learned by much study and investigation that yellow fever was transmitted by a certain type of mosquito, and soon after this discovery the danger of yellow fever was eliminated. In 1905, under the direction of Dr. Joseph White of the Public Health Service, yellow fever was driven from the South.

In very recent years, the menace of typhoid fever has been very much reduced by the application of the scientific methods of prevention as well as a more scientific and effectual method in treating those stricken with the disease. It is rather interesting to note that, according to a reliable statistical report, the death rate from typhoid in 1901 was thirty-two deaths per 100,000 population and in 1925 the corresponding rate was eight deaths per 100,000 population. In the year 1900, the death rate from diphtheria was forty-three deaths per 10,000 population and in 1927 it was three per 10,000.

It is impossible for any one who has not made a survey of history relative to diseases to realize under what improved health conditions we are now living. It is probable that malaria was more responsible for the decline of Greece and Rome than any other one factor. Bubonic plague killed approximately one-fourth of the population of Europe in the Middle Ages, but within a generation its control has been accomplished and epidemics need no longer be feared. Our forefathers feared Asiatic cholera which is no respecter of climates, but science has made it a vague memory among the people of the United States and Europe, although it still destroys its millions in India.

In the colonial days smallpox attacked nearly everyone and those who survived carried the marks for life, but under present scientific methods of vaccination, no one need have it if the people will resort to this means of prevention.

Typhus fever prevailed in epidemics in this country well into the nineteenth century, but science has shown that serious epidemics need no longer be feared. Diphtheria, that much dreaded and frequent visitor that so many times robbed the home of its dear ones, need no longer be looked for as a much dreaded and unwelcome guest, if proper precautions are taken to prevent it.

The fight against tuberculosis has been one beset with many difficulties and some discouragement at times, yet with our present

organized effort against it, much has been done to reduce the rate of mortality, especially within the last twenty years. The effect of these organized efforts during the last twenty to twenty-five years has been very noticeable. The philanthropist and the public health agencies of the country have been alert to the need of looking after the tuberculous.

The members of the medical profession are more skilled in the diagnosis and treatment of the disease. The laity are being educated by nurses who are specially trained in this line of work and are employed by anti-tuberculosis organizations of the various counties and this nursing service is paid for by the sale of Christmas seals.

Sanatoria are expanding their facilities, and their services are responsible for arresting many cases of tuberculosis and restoring many people to an earning capacity sufficient to be self-supporting; and, as a result of the foregoing methods and means of caring for the tuberculous, many thousand lives are saved each year and the rate of mortality very materially reduced.

In order to show the effect of the medical and surgical progress and the scientific developments in the field of prevention, it might be interesting to quote statistical reports showing the comparative percentage of death covering a certain period of time. The general death rate in the United States from all causes decreased from 17.2 per 1,000 in 1900 to 13.9 per 1,000 in 1920, a decrease of nineteen per cent in twenty years. In 1925 the death rate was 11.8 per 1,000, a decrease of thirty-one per cent in twenty-five years. The average life in the United States increased from forty-nine years in 1900 to fifty-eight years in 1931, an increase of over eighteen per cent in thirty-one years.

We do not mean to infer that all these changes have been brought about by preventive measures, for due credit is coming to those who, by their earnest efforts and inventive genius, have made the treatment of disease possible and positive today which only a few years ago had to be treated purely in an empirical and more uncertain way than we have today. The specialist, too, with his intensive training along specific lines, contributes his due portion to the prolongation of human life.

Surgery today has advanced to such a degree as to make possible the successful performance of operations which only a few years ago were thought impossible. The general practician, with his modern methods of diagnosis and the advance in therapeutics, is far better equipped to treat the sick than he was prior to such advancement. All these advances as mentioned, coupled with the scientific methods used for the prevention and spread of communicable diseases, have been responsible for such marked increase in the reduction of the mortality rate.

Proud as we are of our commanding position in so many fields, in health matters, nine countries in the world excel us so far as death rates are concerned. New Zealand had a death rate of 8.1 per 1,000 during the years 1921 to 1925; Australia was second with a rate of 9.4; Norway was third with a rate of 9.5; Denmark and Sweden was fourth with a rate of 9.6; Ontario came seventh with a rate of 10.3; England and Wales eighth with 10.9; Switzerland ninth with 11.4 and the United States with a rate of 11.7.

The United States Public Health Service was first established in 1793 as the Marine Hospital Service—it being the first medical service which the United States Government set up. It now has a large corps of trained individuals engaged in scientific investigations in many parts of the country and functions through the State Health Departments among the various states of the Union.

Thus, all forms of medical science, both curative and preventive, have made marvelous progress in the last fifty years. This science has traveled at a seven-league rate during the last half century. Even the seven-league pace is not adequate to carry it on its journey to all parts of the world, but it now travels with the speed of the swiftest aeroplane and sometimes

the radio. How quickly some new preventive or curative agent can now have its usefulness spread to all parts of the world by these rapid methods of transporting the world's news. Measure that distance and we can not realize how quickly these scientific developments to annihilate and eradicate disease can be spread to all parts of the earth.

In all lines of medical science, the advances have been enormous. Many new lines of work, both as preventive and cure, have been established in the last twenty years. The preventive field of medicine, as well as all other fields of the profession, is a constantly rising plane and we rise with it and we would feel severely ill at ease if we were compelled to step backward and practice our art with the lack of the preventive measures that characterized the profession fifty years ago. The truths of fifty years ago are still true but new truths have been learned and new preventive measures have been established. We now use the best of the old and the new and thus make our progress a practical safeguard to civilization and a shining example in the great light of the world.

LOCAL USE OF CHLOROFORM IN VARIOUS PAIN AND ALLIED CONDITIONS *

By C. N. Brown, M.D.
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On the night of February 9, 1932, I gave a talk before the Kanawha Medical Society in the Public Library at Charleston on the above subject. The interest manifested at this meeting has prompted me to prepare this paper for The West Virginia Medical Journal. I have never seen anything in the textbooks relative to the use of chloroform locally, and I believe what I have to say about it is original.

Chloroform, the well known anesthetic of surgery, was discovered in 1831 by Samuel Guthrie of Sacketts Harbor, New York. It has a chemical formula of $CHCl_3$ and is a heavy, colorless liquid boiling at sixty-one degrees Centigrade.

Applied locally to the skin it is so volatile that it hardly produces any counter-irritant action, but if it is applied to the skin and then covered with a hot wet compress it promptly sets up a burning which quickly subsides upon removing the cloth. I have never known it to produce a blister except in one case, where I applied it freely to the abdomen and then over this a hot wet compress. In this case I failed to grease the skin well before applying the chlorofrom.

The technique is as follows: Anoint the skin well with vaseline over the parts affected, then on a piece of gauze drop 1 to 3 c.c. of pure chloroform, apply this directly to the painful area covered with vaseline; over this place a towel wrung out of hot water, covering this with a large dry towel so as to confine the anodyne and anti-spasmodic action of the choloroform to the site of the pain.

First, you get a burning of the skin which is quickly relieved by raising the compress off the skin, then in a moment re-apply it when usually you can leave it on. The pain and cramp relieving properties are quickly manifest. I at one time relieved a bad case of hiccough which two doctors had failed to cure, solely by the local use of chloroform, as above directed, to the epigastrium.

Patients are always grateful for a local remedy that will relieve them. You can use this remedy in the case of bites and stings of insects. Here you apply it freely three or four times with the fingers and get immediate relief from the pain and itching. I was stung

* Read before the Kanawha Medical Society at Charleston.

on the temple last summer by a bee as I came out of the office. I returned into the office and applied the chloroform freely three to four times to the sting and in ten minutes there was no show or feel of the sting. I used it locally last summer in the bite of a copperhead snake, applying about 2 c.c. on a piece of cotton to the bite and there was no symptom of importance following the bite. My experience in snake bites with chloroform is limited to the one case, which does not mean anything, as often only a small amount of poison is injected with the bite and whatever remedy is applied gets credit for the cure. Those men who have made a study of remedies for snake bite say there are only three things that do much good, viz., tying off the poison by ligature, sucking or cupping the bite and the use of the antivenom serum; but I believe chloroform used freely locally will prove the best remedy.

In cases of acute painful abdomen from any cause, the use of chloroform as directed, will make you grateful for the relief you can give. You may, of course, have to give some morphine and atrophine hypodermically also, but the chloroform helps. Take the severe frontal headache which accompanies bilious vomiting. Apply a few drops to the forehead on a piece of gauze and you soon get relief. In the so-called sun pain, supra-orbital neuralgia, apply it as directed and relief is sure. There is no remedy equal to the local use of chloroform in mosquito bites or any itching of the body such as acute urticaria. Apply it freely with the fingers and you get relief more quickly than I can tell you about it. In cases of sciatic rheumatism where the great nerve is superficial as it passes out of the pelvis through the great sacro-sciatic foramen, apply it here locally on a piece of gauze, 2 to 4 c.c., anointing the parts well with vaseline first, covering this with a hot wet stupe and over this a dry towel, and by its anodyne and counter-irritant action you give relief in most cases.

A few weeks ago I was called to see a case of contracted fingers. The hand and fingers were contracted in a state of tonic spasm and had been so for a period of about six weeks. It was impossible to extend the fingers from their flexed position on the palm of the hand. In this case I used the chloroform locally, first greasing the hand, both palm and dorsal surface, well with vaseline, then I applied the chloroform, about 4 c.c. on gauze to the back and palm of the hand, covering this with hot wet towels and over this a dry towel. When the heat had gone out of the compress, this and the chloroform were renewed. I continued this treatment for about forty-five minutes when I had the satisfaction of seeing the contracted hand relax and the fingers easily extended. This treatment was completely curative in this case, as no more contraction occurred, neither was a dermatitis produced by the prolonged use of the chloroform.

I could cite other cases but this is enough to give you an idea of what it will do. I would like to hear from any doctor who will use it as directed, and I believe its use will soon be greatly extended when a knowledge of its local value is known. I have never seen any harm come from its local use. Care, of course, should be used as in dealing with all powerful redemies. There is very little evaporation when it is covered with hot stupes and towels, as the strength is confined under the dressings.

This is my experience and knowledge of the local use of chloroform in pain and allied conditions covering a period of about twenty years' practice, and I pass it along to you for what it is worth.

CARBOHYDRATES

"Carbohydrates—Donors of Heat and Energy," the title of an article by F. C. Koch in the July *Hygeia*, explains the value of this chemical combination in man's diet. Carbohydrates originate in the main in the green plants through the action of sunlight and chlorophyll on water and carbon dioxide, forming carbohydrate and oxygen. Animals do not possess the power of originating carbohydrates but they are able to build up polysaccharides, such as starches, dextrins, celluloses, gums and the like.

THE PHYSICIAN HIMSELF *

By NORMAN R. PRICE, M.D.
Marlinton, W. Va.

"Brother, get honest with yourself, and most of your troubles will disappear."—Thomas Carlyle.

IF THE noblest study of mankind is man, then I propose to make my thesis a study in relativity of the physician himself. Brother, are you doing your work with a mind serene, or racking yourself both physically and mentally by a wrong approach and discharge of duties that may be both formidable and exhausting?

"Reprove a wise man and he will love thee," the proverb says. I make the charge that physicians in general are neither well-read nor well-informed men, except in the narrow bounds of their special work, when it should be their privilege to explore the whole range of science and literature; those aids to the development of a personal philosophy of life, which will aid in overcoming the two enemies of mankind—life and the fear of death.

As age approaches (and most physicians in this day do not reach man's appointed years of three score and ten) the doctor is not usually a happy or contented man. It is, indeed, discreditable to the profession that too large a percentage take their own lives, and project the unshriven and surprised spirit into the beyond. Our days may be few and evil, but every hour is needed to achieve to the full our destiny, and in the ripe years of life in the body to rally all our forces, physical, mental and spiritual, so as to live and die like gentlemen. "The life is more than meat, and the body than raiment."

Develop a philosophy of your own; be kind; fear no face of clay. Everyone, even the barbarous and most ignorant, must have a religion of some kind. Be subservient to no fellow mortal, and lend neither slavish adherence nor superstitious respect to what you read in a printed book. Read classical literature, of which the Bible is the greatest. The bawdy passages give me no offense. They are classic. This book was old when Anacreon wrote his plays which convulsed the ancient Greeks, and he borrowed his theme from Babylonia and the Sanscrit. The old scriptural prophecies were evidently written under high tension and are disconnected, as such writings must necessarily be; but they contain numerous passages of poetic fire and beauty which are well worth searching out.

The very essence of our profession is a kindly usefulness to our fellow man and fellow woman, but we should be subservient to none. The success and failures of even a decade agone! How trivial they seem in retrospect, and one just as valuable as the other. As old age approaches, regard the years that have flown, leaving only memories, as accomplishments, each one a hardly won victory of life. Strive to feel an eager curiosity about the spirit-life beyond, and shuffle off the mortal coil without regret, knowing there is life after death, compared to which fact all other material things are of no importance.

The physician should closely observe himself as he approaches the dead line of his active years, and when he finds that he can no longer order the analogies on which the practice of medicine so largely depends, he should firmly withdraw from the treatment of the sick. Fortunate is he who at this period of life can sit in a place hallowed by the associations of a lifetime, and so with dignity await the inevitable change. "And the men who were boys when I was a boy will sit and drink with me."

* Read before the Central West Virginia Medical Society, at Richmond, on April 27, 1932.

I recommend to my aged brethren that they fight senility bravely, by setting down their observations and reflections. Abstract thought has its merits, over mere prosaic reading of symptoms, diagnosis, and treatment of pathologies. Or it may be the thought expressed in "The Last Leaf," by Dr. Holmes:

"The mossy marbles rest
On the lips that he had pressed,
In their bloom;
And the names he loved to hear
Have been carved for many a year
On the tomb."

The last literary work of our scholarly friend, Dr. H. M. Hall, of Wheeling, was a profound study of "Immortality." His sudden death soon followed. He was only fifty-four.

If the schools of America are turning out better equipped physicians, both from a cultural and technical standpoint, there is certainly no corresponding increase in respect in which the physician is held by the public. After all is said and done, we are unable to stay the common maladies that take unceasin toll of humanity, and our zealous efforts to help the weak and maimed in childhood adds to the increased mortality in middle life. The tendency (far too common) to perform fancy, unnecessary and expensive operations and treatments has added to public skepticism of medical usefulness. The current business depression has helped to show the public that much medical meddling is not indispensable. Surely there is enough necessary work to do in our profession without over-treating (and over-charging) gullible patients. In full appreciation that human wastage and wreckage always has a place in the affairs of men, let us pursue the even tenor of our way, doing good as we have opportunity. Granted that a certain conformity to the conventions and opinions of mankind is admirable, let us set our faces like flint against sham, hypocrasies and bluff.

Having built up an unworkable and impracticable system of primary, intermediate, and technical schools, it is now apparent that much superfluous material in education, particularly in medical education and legal control of the same must be eliminated. Many men who have adorned the profession in the past, by reason of their natural abilities and self-culture would never have turned to medicine under modern conditions. There is great need for enthusiastic and practical young men to do the common work, and not over-schooled into the belief that they are supermen, surgeons and specialists; above hard physical work and, therefore, too good for rural life and moderate fees.

I do not charge that the practice of medicine in America is a failure, as some distinguished, aged and cynical members of the profession have done. However, if we utilize the opportunities for broad information and culture that are available to us, we may well set a much higher standard than has been done heretofore. Natural laws, by which the unfit are eliminated, will take care of any surplus of those who aspire to be physicians. Just as the administration of the government has deteriorated in the United States by elevating business above politics, so the medical profession and personnel have suffered by raising business above ethics.

A rule of life enunciated by a doctor who had reached the age of ninety was "to eat when hungry, sleep when sleepy, and work when you have work to do." He was a veteran of that immortal band of the sixties, the Army of the Confederacy. Permit me to congratulate such among you who saw military service in any war, no matter how tame and monotonous your actual experience in the army seemed to be. For the time you were lifted from the deadly monotony and sameness of civil life and for a time devoted to perilous and heroic enterprise. To such, the bitterness of death has passed. You have overcome the last enemy of mankind—the fear of death.

Young internes I have tried to converse with seem possessed of money madness—dreams of "good locations," good times, and

incomes of five and ten thousand the first years of practice. Perhaps it is natural because of a pleasure-mad world, and their long and expensive training; and, as their whole lives have been spent in school, they know little as yet of toil in the rough school of experience.

We live in a world wherein we feel ourselves surrounded by sinister influences. Probably it is not the scheme of things that peace, harmony, or continued ease and happiness should be universal. Nor is it expedient that they should be. We need the iron spur to drive us from physical and mental lethargy. Men never have done and never will always do the right thing; but it would seem possible in the evolution of the highest type of man that men may come after us as superior in virtue, poise, and wisdom as we are superior to Cromangan or Neanderthal man. But, as the poet says of old men:

"We shall not acknowledge that old stars fade or brighter planets arise;

(That the sere bush buds, or the desert blooms, or the ancient well-head dries),

Or any new compass wherewith new men adventure 'neath new skies."

AGRANULOCYTOSIS ASSOCIATED WITH DIABETES* (CASE REPORT)

By W. M. SHEPPE, M.D.

THE CASE of agranulocytosis herewith presented is worthy of note inasmuch as the patient was under close observation for three years prior to the onset of the disease. In addition, it is an outstanding example of the occurrence of two severe diseases in the same individual.

Mrs. R. R., aged forty-six, was first admitted to the Ohio Valley General Hospital in 1916, for performance of an appendectomy and oophorectomy. There is no record of a blood count at that time or in 1926, when the tonsils were removed in the same hospital. She was again examined in February, 1927, at which time her chief complaint was nervousness. No definite organic disease could be demonstrated and a diagnosis of impacted molar teeth, pyorrhea, and exhaustion neurosis was made. There was no abnormality of the blood examination as recorded at that time.

The patient was first seen by me in January, 1930. On admission this time she complained of itching around the urethra, polyuria, polydipsia, and loss of weight. The blood sugar was 250 mgms. per 100 c.c. Except for an error of refraction, the physical examination was negative. No difficulty was experienced in bringing the diabetes under control. Her weight, which had been as high as 165 pounds, was re-established at a new level of 135 pounds after discharge from the hospital. She continued to complain at intervals, of nervousness and slight urinary frequency, which was not explained by a urological examination. The blood count, as performed in the hospital in 1930, was normal. It became necessary at a later date to extract eight teeth which were the site of infection. Despite the administration of an adequate diet, she had difficulty in maintaining a weight of 130 pounds. During the latter part of 1930, she complained frequently of pain and stiffness in the back of the neck and legs. In March, 1931, nervousness and weakness were again complained of with slight urinary frequency. In June, 1931, a severe pharyngitis was reported, which disappeared quickly. She continued to complain of nervousness and in November, 1931, reported that she had an infected finger which required incision and drainage. On Decem-

* From the Medical Division of the Wheeling Clinic, Wheeling, West Virginia.

ber 21, 1931, the patient was readmitted to the hospital after an illness of five days at home. Although she walked in, she was apparently extremely ill. Multiple pustular lesions were noted over the skin of the face, arms, and legs, and around the ungual folds of the toes. The lips were swollen and the mucosa had a purplish tint. The superficial ulcerations extended from the skin of the lips over the vermilion border well onto the mucous membranes. The gums and mucous membranes bled easily. There was edema of the face and of the right arm. An area of cellulitis was noted on the second finger of the right hand. The throat was moderately inflamed with a few white patches scattered over the mucous membrane. The pulse was 110 and the temperature 103.5°. There was no bleeding from the rectum or vagina.

From the laboratory standpoint: the blood sugar was 326 mgms. per 100 c.c. and the CO_2 combining power forty-eight. The urine contained sugar and acetone, red blood cells, a few granular casts and a trace of albumen. The reaction was alkaline and remained so. The red count was 3,610,000, hemoglobin 75%. The white count was 2,900, with 5% pmns., and 78% small lymphocytes. The blood platelets, blood urea and blood calcium were normal. Examination of the stool, both chemically and bacteriologically, was negative. A culture from the throat was reported as containing a variety of organisms, chiefly pneumococci and micrococcus catarrhalis. The blood culture was reported as negative.

During the next four days, the temperature fluctuated rapidly, reaching a maximum of 104 degrees and the pulse rising to 140. Despite the severe toxemia and evidence of extreme malaise, the mild acidosis present on admission rapidly disappeared, the CO_2 combining power rising to normal. Although one hundred and five urinary examinations were made during the course of the illness, acetone was found in only five specimens. Four of these were obtained during the last week of stay in the hospital. On the third day following admission, a whole blood transfusion was given by Dr. J. O. Rankin. This was followed by a second transfusion on the fourth day following admission. In addition, the patient was treated with x-ray under the direction of Dr. Norvell Haislip. The long bones of each arm and femurs were given exposures of one minute each at 40 cm., 4 m.a., 100 kv., no filter being used. The evening of the same day, the temperature rose to 105.6°, the pulse was uncountable, and death seemed imminent. The patient was placed in a mild cold pack and in twelve hours the temperature had fallen to 100°. It then returned to 102.5°, and was controlled from that point on by cold sponges. On December 23, the day of the last transfusion, and of the x-ray treatment, the white count reached its lowest point at 4 P. M. At that time the laboratory reported 1800 white cells, 2% pmns., and 85% small lymphocytes (blood counts were made three times daily). The following day the count slowly began to rise and on the twenty-eighth day of December, nine days after admission, had reached 5000 white cells with 32% pmns.

During this period the patient was irrational most of the time. She became self-denunciatory and felt that she had insulted both doctors and nurses. Her psychomotor tension was very high. She was extremely restless but requested frequently that she not be given morphine. Her physical strength remained remarkably good. She insisted upon sitting up in bed, despite efforts of nurses to restrain her. The muscles seemed to be almost in tonic spasm. During this period a severe diarrhea developed and continued for five days. After the patient entered the second week of her hospital stay, the picture changed completely. Instead of talking rapidly and freely, she began to talk quite slowly and in a stilted fashion. A moderate hypertonicity of muscles continued and her respiratory rate was definitely increased. The infectious process described above receded as the white count increased. Insomnia was marked. Several unexplained attacks of paroxysmal dyspnoea occurred but no cyanosis

was noted. Five days later, the slowness of speech was still marked and was still accompanied by an anxiety neurosis, insomania and emotional outbursts. On the second day of January, the white count was 6,600, with 54% pmns. It was again noted at this time that the urine was alkaline and the administration of mineral acid was begun. On discharge, two days later, the white count was 6,800, with 55% pmns. The diabetes was under satisfactory control and the general condition was excellent.

On re-examination, February 1, the blood sugar was 104 mgms. per 100 c.c.; weight 130½ pounds, hemoglobin 75%, W.B.C. 4,600, with 41% pmns. The urine was neutral in reaction. As mineral acid had been discontinued it was again prescribed.

Discussion.—In any case of severe leukopenia which recovers even temporarily, we believe it is customary to express grave doubt as to the accuracy of the diagnosis of agranulocytosis. Unfortunately, there are no definite criteria for the establishment of such a diagnosis. The level of the white count is not considered of differential value. To further cloud the situation, there are undoubtedly severe leukopenias which occur in the course of ordinary infections, particularly those of the streptococcus-pneumococcus group. However, we are for the present placing this case in the class of granulocytic angina. The literature has been searched since 1920, and no case of coincidental agranulocytosis and diabetes mellitus has been found.

The treatment as outlined did not vary except in degree from the usual measures advocated in the literature on the subject. The whole blood transfusion probably exerts a non-specific action and may be graded as a simple supportive measure. The use of the mild cold pack was merely to combat the hyperpyrexia and had no effect on the disease process. From the technical factors as given above, it is evident that the radiation was entirely superficial and that it could have little or no direct effect on the bone marrow. It is entirely possible that the frequently reported failures of x-ray therapy may be due to the delivery of too large a dose directly to the damaged marrow. It is well known that a radio-sensitive tissue reacts to radiation applied over distant areas.

A peculiar feature of this case was the strong tendency of the patient to remain in ketogeni-antiketogenic balance. If any acute infectious process occurs in a diabetic, it is necessary to constantly combat the almost inevitable acidosis. In fact, the entire danger in such cases lies, not in hyperglycemia, but in the accompanying acidosis. Despite a rather unsatisfactory diabetic control (due to extreme illness of patient) the only tendency to the development of acidosis occurred in the week following the acute illness during a period of relative convalescence. Improvement seemed to result from either multiple transfusions, x-ray therapy or spontaneous remission.

There was some evidence to support the impression that the administration of mineral acid was beneficial in maintaining remission in this case. Further study will be made along this line.

Summary.—1. A case of agranulocytosis associated with diabetes is reported.

2. This association, from a survey of the literature, is apparently very rare.

3. The patient recovered from the disease, either by spontaneous remission or under the influence of transfusion and x-ray therapy.

4. A surprising resistance to the development of an acidosis was demonstrated and it is suggested that the administration of mineral acid to the point of acidification of urine favored the maintenance of the remission.

PALLOR AND ANEMIA

Pallor alone does not necessarily indicate the presence of an anemia, Dr. Cyrus C. Sturgis elucidates in the July *Hygeia,* in an article on anemia. The usual symptoms are pallor, shortness of breath, palpitation of the heart and sometimes swelling of the ankles. The greatest advance in treatment of the anemias dates from 1926 when liver was introduced in treatment of pernicious anemia. It was recently learned dried hog's stomach has the same effect.

CASE REPORTS

ABDOMINOPAGUS

By LUTHER C. DAVIS, M.D., and
E. P. SMITH, M.D., *Cook Hospital*
Fairmont, W. Va.

Cases of abdominopagus are so rare that we feel that the occurrence of this type of double monster should be reported.

Mrs. S. W. B., age 35, para 1, in good health except for a fully compensating mitral stenosis. Previous gestation and confinement normal. She began at the eighth month to exhibit symptoms of late toxemia of pregnancy, the pulse became fast and loud double mitral murmur was heard. The heart dullness broadened. There was moderate edema of the ankles and a fair amount of dyspnea. The blood-pressure rose from 122 to 190 systolic and the diastolis pressure from 84 to 115. Albumen made its appearance in the urine and soon became quite heavy.

ABDOMINOPAGUS

The patient was kept quietly in bed, digitalized, and for a while showed slight improvement. The failure of the symptoms to remit after two weeks in bed made it imperative that the uterus be emptied. A diagnosis of twins was made and this was confirmed by x-ray. Therefore, cesarean section was determined upon and carried out. The mother, after one slight post-operative convulsion, made a rapid and complete recovery.

The twins so born were found to be a true abdominopagus. The head, neck, throax, arms, legs, and genitalia of each were well formed, separate and distinct. Just below the sternum they were joined by a fleshy band covered by normal skin. Below this, the abdominal cavity of each was covered by a film of gelatinous membrane which was ruptured during the extraction of fetuses from the uetrus allowing the intestines of one to protrude.

By exploring through this opening it was possible to see that they had a common liver with two separate stomachs, two separate intestinal tracts, and two anal orifices. There was a common placenta and the sheath of the umbilical cord was continuous with the gelatinous mass covering the lower abdomen. The twins were female in sex and lived for two days. Picture of the case is appended.

CRIMINAL IDENTITY

Frequently found at the scene of a crime are many bits of evidence, such as foot prints, tire prints, tool marks, teeth prints, wheel tracks and numerous other material clues, all of which are perishable, and yet this very evidence will serve to identify the criminal in court.

The use of casts and molds has been of value in various fields of science to preserve in natural shape and size an object of importance. This process which at the present time is called "moulage" is extremely valuable in criminal investigation. Teeth marks in an apple can be just as identifying as fingerprints, L. J. Kaempfer explains in "Moulage in Criminal Investimation," appearing in *Hygeia* for July.

If a door has been jimmied in the course of breaking into a building, there will remain along its edges markings produced by the tool employed. Casts of these marks can be made and compared with the suspected tool to determine its identity. Heretofore it was necessary either to saw out the part of the door involved or to remove the entire door for court demonstration.

Alphonse Poller, an Austrian, is the creator of the "moulage" method. His untimely death in 1930 constituted a terrific loss to the world of science.

SOCIAL INSURANCE

By DR. EDWARD H. OCHSNER

Some fifteen years ago when the prices of eggs and chicken feed were at their highest, I wrote my farmer and asked him why he was not sending us any eggs. I received the following laconic answer: "The pullets look good but lay no eggs." Superficially examined, compulsory health insurance "looks good" but unlike my pullets it has laid many eggs, most of which are addled.

When we substitute governmental control in medicine and dentistry for independent individual action, we stifle self-expression, individuality, initiative, courage, confidence, enthusiasm, and industry. We, as a nation, are on the whole already overstandardized. The very ones who wail the loudest about the evils of mechanization are often the very ones who clamor the most for more government control. Excessive bureaucratic and lay control have much the same spiritual effect upon the professional man as over-mechanization has upon the intelligent craftsman. They both have a tendency to crush out fortitude, ingenuity, and pride of achievement in those engaged in these vocations. With some, standardization has become almost a fetish in spite of the fact that when pushed too far it always results in mediocrity. The efficient successful practice of medicine always has been and always will be a personal unstandardized affair.

That the quality of medical services has deteriorated in those countries which have compulsory health insurance is due to many causes among which may be mentioned the excessive number of calls upon the time and energy of the physician. Those who receive free medical services are constantly running to the physician for every trifling ailment or compelling the physician to make many unnecessary calls at the homes. Every Krankenkasse physician who has been interviewed has stressed this fact. Baeumer states in his book that between sixty-five and seventy per cent of all calls are unnecessary, consume the time and energy of the physician and the resources of the Krankenkasse, and prevent adequate medical services and hospital care to the really sick. Liek in his book says the number of trivial conditions such as "microscopic skin abrasions, etc." disgusted him so much that he retired from the service. This abuse has grown to such proportions in Germany that the government department has been compelled to issue new regulations to the effect that the insured have to pay a certain fee out of their own pockets for each prescription.

This again has given rise to new abuses. A common sequence of new regulations to correct one abuse is to create an opportunity for newer ones. In England unnecessary night calls become so common that many panel physicians disconnected their 'phones between ten o'clock P. M. and seven o'clock A. M. A fine state of affairs if a patient has a strangulated hernia or an attack of gall stones, or acute appendicitis at midnight! We have all repeatedly seen and heard the statement that the workers of this country do not have medical services when they most need them—namely, at the beginning of an illness. The claim is made that were prompt services available at this time much serious illness could be avoided. Conclusive proof that private practice is more prompt than compulsory health insurance practice is evidenced by the practice in England of avoiding night calls, and by the fact that the percentage of pus appendix cases, which necessitate draining, is much greater in Germany than in the United States. We all know how the mortality rate is increased by letting acute appendix cases progress to suppuration before they are operated and how much longer the period of hospitalization is in suppurative cases. If acute illness had more prompt and more efficient treatment in Germany, for instance, than in the United States suppurative appendix cases should be much less frequent, the mortality rate should be lower and the morbidity shortened. As a matter of fact, the reverse is the case which proves rather conclusively that medical services in the United States are more efficient than those in Germany. Such absues result in endless rules and regulations. Rules that accomplish little except to cramp the individuality and personality of the conscientious physician, wear him out with paper work and leave little time and energy for professional study and advancement. One official described his plight in the following words:

"I've settled into official routine; I'm fixed there hard and fast. It's so with many of us. Most of us recognize the hopelessness of ever pulling out.

As I sometimes confess, I am merely one of the unburied dead."

That compulsory health insurance does not in fact prevent sickness nor reduce economic loss as the result of sickness is also proven by the following facts. Before the World War the average loss of time for sickness of the American laboring man was six and two-tenths (6.2) days per year; the German's, nine and two-tenths (9.2) days; the Austrian's, nine and five-tenths (9.5). We are credibly informed that since 1923 the loss of time in Germany has increased eighty per cent above the nine and two-tenths (9.2) so that it now stands at approximately sixteen and five-tenths (16.5) as against six and two-tenths (6.2) in America. A fine showing for compulsory health insurance after forty-eight years of operation!

Let us see what some of the German and English think about the scheme. A high salaried German health insurance official said the following in 1927: "Health insurance is the oldest branch of German social insurance. The sickness insurance law of June, 1883, was the corner-stone of the proud building for which we were envied by foreign nations before the war. Unemployment insurance will, I hope in the near future, be the capstone of the building." To which Edwin Liek, a practicing physician of Danzig, makes the following retort: "This is an expression familiar to physicians, words that we have frequently heard during the past four decades. Only now they affect us differently. In the beginning the doctors believed these dulcet tones; today only *parasitic physicians* or *pure fools* join in this festive song." And again he says, "Social insurance is today organized to fill the feed trough of *bureaucratic drones*." At a recent meeting of the Trade Union Council in Nottingham, England, a resolution was passed unanimously demanding that the Government overhaul the Department of National Health.

That the average American citizen is getting better medical services than are the citizens of those countries which have had compulsory health insurance the longest is borne out by the cited statistics, the quoted opinions as well as by a rather extensive personal experience both in this country and in Central Europe.

(The next two articles will show how social insurance undermines national character.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

Health examinations of students in high schools, colleges and universities are being applied more widely every year. Latent defects are thus brought to light and early treatment results in correction or cure of the incipient disease. Agencies for the control of tuberculosis have been among the leaders who stressed the importance of health examinations, and the value of the application of the tuberculin test and x-ray examination in the discovery of latent tuberculosis has been repeatedly demonstrated. The results of a recent investigation at the Henry Phipps Institute in Philadelphia into the incidence of tuberculous infection and tuberculous disease in medical and college students are presented below. Although the high incidence of tuberculosis in medical students may present a special problem the value of health examinations, here illustrated, has universal application.

TUBERCULOSIS IN MEDICAL AND COLLEGE STUDENTS

Since medical students either during their medical course or in subsequent years often become ill with tuberculosis, a study was undertaken to determine the frequency and severity of tuberculous infection among medical and premedical students of the University of Pennsylvania. The usual methods of investigation into the incidence of tuberculous infection and disease were employed.

After the weight and height had been recorded, inquiry made concerning respiratory disease with which they had suffered and possible exposure to tuberculosis noted, students were given intracutaneous tuberculin tests, stereoscopic roentgenological examination of the chest and, when the latter revealed tuberculous infiltration of the lung, physical examination.

TABLE I

RESULTS OF THE TUBERCULIN TEST IN COLLEGE AND MEDICAL STUDENTS

Students	Number tested	Reacted to tuberculin
		PER CENT
COLLEGE		
First year	64	84.4
Second year	68	80.9
Third year	68	92.5
Fourth year	37	83.8
Total	236	85.6
MEDICAL		
First year	99	84.8
Second year	103	94.2
Third year	126	96.0
Fourth year	111	98.2
Total	439	93.6

Results of the tuberculin tests of 236 premedical and 439 medical students are shown in Table I. There was no continuous increase in successive classes of the number of premedical students who reacted to tuberculin, variations being doubtless dependent upon the small number in each class. The percentage of premedical students that reacted to tuberculin was 85.6 per cent. The number of medical students of the first year who reacted was approximately the same, namely, 84.8 per cent. In the second and third year classes the number who reacted was higher, and in the fourth year it reached 98.2 per cent. The continuous increase in the frequency of infection during the medical course corresponds with the increasing number of tuberculous infiltrations found by roentgenological examination.

TABLE II

RESULTS OF ROENTGENOLOGICAL EXAMINATIONS OF COLLEGE AND MEDICAL STUDENTS

Students	Number given roentgenological examination	Number with latent apical examination	Number with manifest pulmonary tuberculosis
COLLEGE			
First year	78	1	1
Second year	79	3	0
Third year	81	3	0
Fourth year	41	2	0
MEDICAL			
First year	98	3	1
Second year	103	12	0
Third year	129	14	4
Fourth year	122	16	9

Tuberculous Lesions Found.—Table II shows examination of 731 medical and premedical students arranged in classes. Calcified nodules in lungs or lymph nodes represent tuberculous infection, usually acquired in childhood. Their opacity and sharp definition distinguishes them from the diffuse lesions that are listed in the table as latent apical tuberculosis and manifest tuberculosis. They are doubtless in process of healing but their presence does not exclude the occurrence of progressive tuberculosis.

Calcified nodules of the lungs or the adjacent lymph nodes without other demonstrable tuberculous lesion were found in 44 of 279 college students or 15.8 per cent and in 79 of 452 medical students or 17.5 per cent. In ten of 45 instances of latent apical tuberculosis in medical students and in three of fourteen instances of manifest pulmonary tuberculosis in the same group, there was associated tuberculosis of the tracheo-bronchial lymph nodes.

With the lesions designated as latent apical tuberculosis there have been no symptoms of tuberculosis, and physical examination has revealed no physical signs. The number of these lesions has been practically the same in students of the four premedical classes and of the first year class in medicine. They increase in number considerably in the second year and slightly in the two subsequent years.

Students with manifest pulmonary tuberculosis have had symptoms such as cough, hemoptysis, fever or loss of weight. Significant physical signs were râles, impaired resonance and restricted movement over the site of the lesion. Only one premedical student with manifest pulmonary tuberculosis was found.

One instance of clinically manifest tuberculosis was found in the first year medical class and none in the second year. In the third year, however, there were four instances of pulmonary tuberculosis accompanied by symptoms or physical signs and in the fourth year class there were nine.

Apical Lesions.—In Table III lesions found at the apex of the lung are classified in accordance with their extent. Shadows of doubtful significance, designated as suspected apical infiltration, were found in a considerable number of medical students, though it is uncertain whether there are due to tuberculous infiltration. It has been considered desirable to reexamine students with these anomalous shadows at repeated intervals.

TABLE III

ANALYSIS OF APICAL LESIONS

	Number given x-ray examination	*Supraclavicular apical infiltration*	*Apical infiltration extending below the clavicle*
COLLEGE			
First year.....	78	1	1
Second year....	79	3	0
Third year.....	81	3	0
Fourth year....	41	2	0
MEDICAL			
First year.....	98	3	1
Second year....	103	12	0
Third year.....	129	12	6
Fourth year....	122	12	13

In about three per cent of college students there was infiltration limited to the area above the calvicle, whereas 8.6 per cent of medical students had similar lesions, their number increasing from three per cent in the first year to ten per cent in the fourth year. In some instances opaque salients project below the border of the second rib, and in all others there were soft scattered shadows throughout the area above the clavicle.

Conspicuous pulmonary infiltration extending below the clavicle was not found in students of the first two years, but occurred in six medical students of the third year and in thirteen of the fourth year.

The number of young adults with apical lesions of tuberculosis increases gradually with increasing age, but the incidence of these lesions in medical students, increasing rapidly in successive years of the medical course, with atsonishingly high incidence in students of the fourth year, indicates that they are peculiarly subject to grave tuberculous infection.

Further Study Indicated.—The results of this investigation, confirming as they do, previous observations made at various medical schools concerning the development of clinical tuberculosis in medical students and internes present a problem that requires further study. While the treatment of the individual patient differs but slightly from any other individual with a similar tuberculous lesion the cause of the high incidence of tuberculous disease in this group must be sought for and prevented.—*Tuberculosis in Medical and College Students.*—H. W. Hetherington, F. Maurice McPhedran, H. R. M. Landis, Eugene L. Opie—Archives of Internal Medicine, November, 1931.

A.C.S. HOSPITAL SURVEY

As a matter of considerable interest to the medical profession in this state, we publish herewith the report of a special committee of Fellows of the American College of Surgeons appointed to make a survey of hospital conditions in West Virginia. The report was recently made to Dr. R. H. Walker, Chairman of the Clinical Section of the West Virginia American College of Surgeons. Dr. R. K. Buford, Chairman of the Special Committee, made the report which follows:

"I wish to report the findings of the committee you appointed during the 1931 meeting of the State Medical Association in Clarksburg to investigate industrial surgery in the state from the standpoint of hospitalization, standardization, results, compensation, coöperation and the ethical conduct of the men in charge of the hospitals of the state. The committee, composed of Dr. Chester R. Ogden, Clarksburg; Dr. R. J. Wilkinson, Huntington, and the Chairman, had its first meeting September 21, 1931, in Huntington, all members being present. The committee's lack of time and funds did not permit a personal study of the problem. We decided to send out the enclosed questionnaire to all of the hospitals in the state.

"Replies were received from twenty-two questionnaires. Fifteen stated they were were not doing contract practice. The remaining seven were engaged in that practice. The average compensation was about $1.30 per man, including physician's fees. Fifty per cent of the hospitals were satisfied with their present rate of compensation. The others did not think the present rate was adequate for services rendered. Many of the hospitals in the southern part of the state doing contract list practice did not reply.

"Twelve hospitals were private. Ten were corporation, community or church hospitals. The staff was open in twelve and closed in ten.

The average number of days in the hospital for fracture of the femur was 75. The average number of days for fracture of the spine was 206. The questionnaire showed a marked variation in percentage of permanent disability in both the femur and the spine, carying from twenty to one per cent for the femur and from fifty to two per cent for the spine. Summarized answers showed there was

no standardized or uniform method used in the treatment of fracture of the femur or spine.

"All the hospitals felt that their methods of treatment and disability were not influenced by contract practice. The majority did not feel that they would do any better work if the industrial cases were paid for by the compensation department. These hospitals were not engaged in contract list practice.

"A careful study of the various answers regarding list practice might be summarized in the following statement: Belief that the check-off system should be appointed and the employee be allowed to choose his own hospital and physician and have his bills according to a set scale of fees paid from this fund; only such hospital and physician's bills should be paid for from this fund that do not come under the workmen's compensation act; that the compensation department furnish each hospital a tabulated list of their compensation cases showing the results and stating whether or not they are running above or below the average for the state.

"There was no evidence brought forward to show that any hospital superintendent or business manager or member of the staff used unethical methods in securing industrial contract practice.

"All the hospitals have training schools for nurses except one. The average bed capacity was 88; the averabe number of patients was 54.

"Each hospital, with one exception, felt that there was no present need for our state industrial hospitals. They should not be permitted to run in competition with private, church or municipal hospitals.

"We only found one hospital executive who thought it was fair for the medical profession in certain sections of the state to be asked to take care of industrial cases without compensation because the patient happens to pay into some hospital list fund for himself and family.

"The committee individually has discussed the question of industrial medicine with a number of representatives of the different specialties in medicine and the majority feels that the present existing method of handling the problem as practiced in southern West Virginia in the form of the so-called hospital list practice is unsound medical economics, leading to a multitude of small, inadequate, poorly equipped hospitals in order to obtain a certain share of the industrial business.

"Your committee would like to make the following recommendations to the Fellows of the College of West Virginia:

1. The organization of hospital list funds, the fees checked off from the beneficiary's pay roll, the sum being adequate to take care of professional care and hospitalization of all illness that does not come under the workmen's compensation act. The fund should be jointly administered by a committee representing the company and the employees.
2. All industrial cases that are injured in line of duty and are justly entitled to compensation should be paid for by the compensation department as prescribed by law regardless of any list or hospital fund that the claimant might be a member.
3. The members of the college in the state are urged not to work in hospitals where anyone is permitted to do any type of general surgery that his conscience will permit, regardless of his training and qualifications.
4. There are more general practitioners doing surgery in West Virginia, per capita, than any other state in the union. The hospitals are not fulfilling their trust to the public in permitting this abominable practice.
5. The hospital should be classified by its end results. A painstaking study of the infections, morbidity and mortalities would give a true index of hospital standardization. Our present method of standardization is inadequate in any community where private hospitals predominate.

"The fact that the compensation rate in the coal industry is 100 per cent higher in the northern section of the state than it is in the southern coal fields should suggest that all is not well."

SWIMMING INSTRUCTION

Children learn to swim easily if the instructor makes a game of the sport by appealing to their imagination. Reference to mechanical ideas, such as the steamboat and the windmill, are valuable psychologic devices to reduce fear. The Brink System is excellent for initial lessons with groups of young boys or girls. Gaining the child's confidence is highly important. Moreover, children's restlessness and lack of attention are factors that must be considered. Breathing in through the mouth and out through the nose is correct when one is swimming, and instruction in breath control should be given in the early lessons. In the July *Hygeia,* Bob Boardman offers practical suggestions for the young swimmer.

PRESIDENT'S PAGE

TO THE citizens, physicians, and public officials of the beautiful city of Parkersburg, and its newspapers we extend our gratitude for their cordiality and whole-hearted coöperation which contributed so very much toward the success of our Sixty-fifth Annual Convention, now history.

Yes, our convention must needs be entered in the annals but only for posterity's sake, for those of us privileged to attend will always cherish the memory of it. When on earth our race is run, and we are called into consultation with the Great Physician above, we will be justly proud of the fact that we, at this convention, furthered our efforts toward the alleviation of the suffering of, "one of the least of these,—" his unfortunate patients.

I have always considered myself quite unworthy of the esteemed position in which I have been placed by our association. As the presiding officer of the convention I do not take credit for one iota of its success. I feel repaid for my efforts two-fold when seeing that during this maelstrom of financial chaos and readjustment, brotherhood and coöperation continues the watchword of our profession and that this feeling continues to permeate our every annual meeting.

Our association is certainly to be congratulated on the selection of its officers for the coming year and I can assure them of its continued coöperation to the last member.

Albert H. Hoge

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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THE ESTILL ROW

We deem as somewhat unfortunate the unusual amount of newspaper publicity given to Calvert Estill, director of the state's department of public welfare, following the Presidential address of Dr. Albert H. Hoge at Parkersburg. The portion of Dr. Hoge's address dealing with Mr. Estill's department was a very minor feature of his courageous paper. Apparently the state press considered the Estill angle as having unusual news value, for it was featured by practically every newspaper in the state.

To those of our readers who were not fortunate enough to hear Dr. Hoge's paper, we would like to point out that the address was a plea to weed out laymen who are now holding responsible positions dealing with the care and treatment of the sick. Dr. Hoge believes, and rightfully so, that the medical problems of the state should be in the hands of trained medical men. He is just as much opposed to untrained physicians heading some of our state institutions as he is to politically-minded laymen directing the treatment of the sick.

Reviewing briefly Dr. Hoge's address, which is published elsewhere in this JOURNAL, we find the following in regard to Mr. Estill, "He (Mr. Estill) has had no medical training and is, therefore, not qualified to direct the activities and care of the sick of the state." This, together with a statement that Mr. Estill is a former newspaper man, is practically the only reference to the department of public welfare.

Just why Mr. Estill should resent this so strenuously is difficult to understand. Certainly he is a former newspaper man. That is how he happened to drift into politics. And surely he has had no medical training. Yet he replied to Dr. Hoge with a telegram of two thousand words (we wonder if it was paid for out of the Chippled Children's fund) which appeared in the newspapers before it was delivered to the President of the West Virginia State Medical Association.

A few years ago Mr. Estill gave up his newspaper work to become secretary to Governor Conley. When the 1931 legislature created a department of public welfare, Mr. Estill was appointed as its director. With no previous training of any kind, certainly Mr. Estill was not very well equipped for this important and responsible position.

With a great amount of resourcefulness, coupled with unquestioned executive ability, Mr. Estill in a short time began to make a creditable showing for his department. Until he was able to learn something about crippled children and about the sick wards of the state, it was, of course, rather tough on these unfortunates. But now that he has learned, and now that he is operating his department with real efficiency and with real sincerity, neither this JOURNAL nor Dr. Hoge would like to see him removed. That is, we would not like to see him removed as long as a non-medical man must hold a medical position.

As soon as Dr. Hoge's paper was published, Mr. Estill rushed to Governor Conley with his resignation. We believe that Mr. Estill was somewhat super-sensitive; that he was suffering from a martyr complex. When this resignation was published on June 22, Dr. Hoge's first act was to send a telegram to Governor Conley urging him not to accept it. Dr. Hoge not only was aware of Mr. Estill's virtues, but he undoubtedly had visions of another untrained layman stepping in to practice upon welfare work at the expense of the state's unfortunate patients. Gov-

ernor Conley was wise enough to refuse the Estill resignation. Unlike many of our readers, we do not question its sincerity.

As we again read Mr. Estill's telegram and the publicity which followed it, we are inclined to feel that his action was a very foolish one. Heretofore he has always had the unqualified support of the medical profession. The medical profession has given him its best talent, its specialists in every field with which to carry on his work. Without this support he would long since have been in a sorry plight. With it he has built his group into a commendable department with creditable end results. We can not understand why he should now fly in the face of those who have helped him most, and attempt to pick a quarrel.

The medical profession has no quarrel with Mr. Estill. Neither has Dr. Hoge, who stands at the head of that profession. We have no quarrel with the state board of control, which heads the various state institutions caring for the sick. Our only quarrel is with the system in West Virginia which places medical problems in lay hands. We shall not fight Mr. Estill, regardless of how many chips he puts on his shoulder, but we shall fight always against this system which has held most of our state institutions to the lowest possible level of medical service.

THE PARKERSBURG MEETING

In the history of this Association, we daresay there have been few annual meetings as interesting and as successful as the session just ended at Parkersburg. It was a gathering that will long be remembered by those who were fortunate enough to be in attendance.

As we go to press at the close of the Parkersburg meeting, we have just time and space enough to offer our sincere congratulations to all those who were in any way responsible for its success. We feel, for the first time in many months, that the outlook is now bright for organized medicine in West Virginia. We believe we are on the road to accomplishing great things for the public welfare.

We know one thing for sure. We know that the members of the West Virginia State Medical Association have at last developed a keen and loyal interest in their own organization. Regardless of differences of opinion, this was the outstanding feature of the Parkersburg gathering.

PROFESSIONAL GOSSIP

We hear much on every side about the vast amount of unfavorable criticism that is heaped upon the medical profession. A great hue and cry is raised about the attacks made upon the practice of medicine in such magazines as *Scribners, The Forum, The Atlantic Monthly,* and many other lay publications with nation-wide circulation. We hear such articles discussed frequently in medical meetings. Almost invariably the conclusion is reached that "state medicine is on the way."

It has been our observation that fully eighty per cent of the lay articles objecting to the high cost of illness are articles that deal with hospitalization and not with the actual practice of medicine. It has been our further observation that for every article attacking the present system of medical practice, there has shortly appeared another article defending the profession and offsetting the arguments advanced in the first. In other words, we do not think the situation is nearly so bad as it is painted.

The greatest menace to the medical profession today, in our opinion, is the attitude of the profession itself. The individual doctors are too prone to accept the verdict of an unfavorable magazine article and to spread the gossip of capitulation among their confrères. There is no small percentage of medical practitioners who are willing, right now, to throw up their hands and surrender to a false bugaboo which they have themselves built up.

If the present situation is alarming, it is only because the profession itself considers it so. The surest way to bring about some undesirable form of medical practice is for the doctors to keep on berating themselves and

crying out about their own weaknesses. We have weaknesses, to be sure. So did Achilles have a weakness but he didn't go around shouting it from the housetops.

"The medical profession," we read in a medical journal some days ago, "is tired of being kicked in the dirt and trampled upon." There, in our opinion, is a vivid example of how the use of extravagant language can do irreparable harm. If the medical profession has ever been kicked and trampled in the dirt, (which we doubt,) we certainly should not go about reminding each other of such a shameful misfortune. Instead we should brush ourselves off and lay low to do a little kicking of our own. Of all professions, that of medicine should be the last to make a stage-play for sympathy.

In condemning the practitioner who glories in spreading gloom among his confrères, we do not wish to be understood as extolling the doubtful virtues of the glad-hander. We have as little regard for the spreader of false sunshine as we have for the purveyor of gloomy platitudes. What we do admire is the man who is willing to consider this question of medical economics with the same serious dignity that he gives to his scientific studies.

The organized medical profession has been in many battles. In some it has met defeat; in others, victory. Always it has fought valiantly and unselfishly for the public welfare. Surely this is no time to turn our backs upon tradition and cry out in anguish and despair over lost battles.

PHARMACEUTICAL HOUSES

Practically every physician in active practice is the recipient of many samples of medical preparations and foods. How to select the good from the worthless is becoming an ever increasing problem.

The representatives of pharmaceutical houses take up a great deal of the time of busy practitioners. The outstanding pharmaceutical and biological houses generally are represented by professional pharmacists well informed on Materia Medica. Time spent with these men is usually very instructive and beneficial. They talk to the point on any phase of Materia Medica, and are well informed on the new products of houses other than their own. These men are entitled to a courteous audience even during busy office hours. How very different, though, with many others who are totally ignorant except regarding the supposed virtues of uncertain preparations manufactured by their houses. Time spent with this class had better have been devoted to mental or physical relaxation.

In the final analysis, physicians are requested to prescribe a great many new and unknown remedies. Some well known method of selecting new drugs or preparations should be used as a guide. The Council on Pharmacy of the American Medical Association accepts many useful preparations each year; on the other hand, many more useless ones are rejected. The higher class of pharmaceutical houses seldom offer a new preparation until it has been presented to the Council. Their products are then advertised through our national and state Medical Journals. The revenue derived from this source is an important factor in making a success of these publications. A few well known pharmaceutical houses have a policy of refusing to advertise in Medical Journals; yet we are asked to use freely of their products.

The medical profession is being exploited by some drug houses that are not maintaining research departments to add knowledge to our profession. We, who are busy practitioners, can not be expected to take time to investigate the products of forty-two or more houses now manufacturing pharmaceuticals.

A study of the files of the average drug store will show that more than seventy per cent of all prescriptions written are for patent or proprietary drugs, and who can tell one from the other? An important fact to remember is that some of the chief specialties that we are prescribing today will be the patent medicines of tomorrow.

While physicians are prone to blame druggists for the loss of business due to counter

prescribing, the real blame falls upon the physicians themselves, because they give samples to patients without removing the original label, or tell the patient verbally what to get or prescribe patent medicines. This is usually done as an economic measure for close friends or relatives. Such a careless method frequently results in one's close friends seeking medical advice elsewhere. The relatives usually express their gratitude by telling good paying patients what you use in certain affections.

Here is a safe plan that, if followed, would assure us that we are prescribing the best drugs available. It is—Do not accept samples from pharmaceutical houses unless they have been approved by the Council on Pharmacy of the American Medical Association. Houses that do not follow this rule and do not advertise in our State Journal, are not, as a rule, contributing anything toward the advancement of medical science, nor do they contribute toward the distribution of literature so necessary for every physician. Such houses are merely using our profession to increase their profits and are giving nothing in return.

SECTIONAL OFFICERS

New officers for 1933 were elected at Parkersburg by the four special sections of the Association. They are as follows:

Section on Surgery—Dr. B. O. Robinson, Parkersburg, Chairman; Dr. Frank V. Langfitt, Clarksburg, Secretary.

Section on Internal Medicine—Dr. Oscar B. Biern, Huntington, Chairman; Dr. G. R. Maxwell, Morgantown, Secretary.

Section on Pediatrics—Dr. George Lyon, Huntington, Chairman; Dr. M. F. Petersen, Charleston, Secretary.

Eye, Ear, Nose and Throat Section—Dr. O. H. Bobbitt, Charleston, Chairman; Dr. C. E. Park, Parkersburg, Vice-Chairman; Dr. Harry V. Thomas, Fairmont, Secretary.

COUNTY SOCIETY NEWS

BROOKE COUNTY

Dr. J. P. McMullen of Wellsburg was elected President of the Brooke County Medical Society at the regular meeting held on the evening of May 26, 1932. Dr. McMullen will succeed Dr. W. A. MacDonald, who was elected as Secretary-Treasurer. Dr. F. L. Matson of Wellsburg was elected Vice-President.

E. N. PELL, Secretary.

CABELL COUNTY

The regular meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of May 26 with a good attendance. The scientific program consisted of a discussion of immunization of children. This was the final meeting until fall.

The Cabell County society is now sponsoring a series of local newspaper advertisements in an effort to educate the public in health matters and to bring the profession and the public closer together. This campaign is being started more or less as an experiment and is being watched with considerable interest.

Dr. George M. Lyon has recently been elected to the American Pediatric Society, the action being taken at the recent meeting in Rochester, Minnesota. The society has less than one hundred members and membership is awarded in recognition of the achievements accomplished by its individual memebrs.

W. W. STRANGE, Secretary.

MERCER COUNTY

The regular monthly meeting of the Mercer County Medical Society was held on May 26, 1932, at 8:15 P. M., in the directors' room of the Municipal building, Bluefield. There were fifteen members and one visitor present.

A very interesting Symposium on Obstetrics was presented by the following men: Dr. Harry G. Steele, Bluefield, "Prenatal Care"; Dr. E. H. Tanner, Bluefield, "Procedure of a Normal Delivery"; Dr. J. I. Markell, Princeton, "Complications After Delivery."

There was a free discussion from a large majority of the members present.

R. R. STUART, Secretary

MONONGALIA COUNTY

The meeting June 7 of the Monongalia County Medical Society was given over to reports of clinical cases by the members. The meeting, which was held in the library of the junior high school at Morgantown, was well attended and an interesting program was developed.

G. R. MAXWELL, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular June meeting on Wednesday evening, June 15, at the Hatfield-Lawson Hospital at Logan. Nineteen members and visitors were present.

After discussing some matters of business the following scientific program was rendered:—Dr. Wm. W. Strange, Huntington, read a paper on "Comments on Acute Appendicitis"; and Dr. Edwin Matthews, also of Huntington, gave a talk illustrated by lantern slides, on "The Management of Gonorrheal Urethritis."

FRED E. BRAMMER, Secretary.

MINGO COUNTY

An interesting meeting of the Mingo County Medical Society was held at the Williamson Memorial Hospital, Williamson, on the evening of June 9, with a fair attendance. The scientific essayist was Dr. W. W. Point, Charleston, who gave a paper on "The Average Normal Case of Pregnancy and Labor." This was followed by a liberal round-table discussion.

FRED BEN QUINCY, Secretary.

KANAWHA COUNTY

The last spring meeting of the Kanawha Medical Society was held in the Public Library building, Charleston, on the evening of June 14, with a good attendance. The report of the Secretary was heard at this session and plans for the summer gatherings of the society were made.

The scientific program was presented by Dr. R. H. Walker, Charleston, on "Local Anesthesia in the Treatment of Fractures." He was followed by Dr. R. O. Halloran, also of Charleston, who gave a paper on "Some Common Skin Affections." Both of these papers were of great interest and were freely discussed.

On July 28 the Kanawha Medical Society will unveil a memorial bronze tablet on the new Patrick bridge in honor of Dr. Spicer Patrick, one of the pioneer practitioners in the Kanawha Valley. The tablet is now being made up for the Society and will be dedicated with a suitable ceremony. Officers and members of the Society, together with a number of state officials, will participate in the ceremony.

M. F. PETERSEN, Secretary.

OHIO COUNTY

The Wheeling Clinic announces the association, beginning July 1, 1932, of Dr. James K. Stewart with the Ear, Eye, Nose and Throat Division. Dr. Stewart will give particular attention to ophthalmology.

Dr. Stewart, who is a native of Wheeling, received his preliminary education at West Virginia University and was graduated from Jefferson School of Medicine. He served as an intern at the Ohio Valley General Hospital, Wheeling, and has recently been graduated from the post-graduate school of the University of Pennsylvania.

MARION COUNTY

The annual spring business meeting of the Marion County Medical Society was held at the Fairmont Hotel at 6 o'clock on the evening of May 31 with an excellent attendance. A fine dinner was served prior to the business meeting and a number of matters of interest to the society were taken up and disposed of.

CHARLES T. FRANCIS, Secretary.

LINCOLN AND CALOMEL

Dr. Milton H. Shutes describes Lincoln as President-elect, in Chapter 10 of his serial, "Lincoln and the Doctors," appearing monthly in *Hygeia*.

"Mr. Lincoln was now President-elect and, as such, a very busy and important man. He soon forgot the unpleasantness of that mirrored double image of himself in his planning and preparations for Washington. He was apparently well and vigorous now, though still a slave to the little calomel pill.

"When he stepped on the special train of the Great Western Railroad, he had over his shoulders the famous gray shawl to protect him from the cold February drizzle. Aboard the train was Mrs. Lincoln's brother-in-law, Dr. William Wallace, the physician in charge of the trip to Washington. For now Lincoln's life, as well as his health, needed guarding, and a doctor was a necessary member of that party."

OBITUARY

DR. ARNOLD A. SCHERR

Dr. Arnold August Scherr, prominent Keyser physician, died at his home there on May 27 after a lingering illness of several months. He was 54 years of age and is survived by his widow, one daughter and two sons. Two sisters and four brothers, including Dr. William Scherr of Morgantown, also survive.

Dr. Scherr was born in Washington and first started the practice of medicine in Fairmont in 1903, the year of his graduation from the College of Physicians and Surgeons in Baltimore. From Fairmont he moved to Eglon where he affiliated with the West Virginia State Medical Association through the Preston County Medical Society. In 1920 he located at Keyser where he built up an enviable reputation as a physician and as a loyal citizen. During the World War he served in the Medical corps as first lieutenant.

Funeral services were held on Sunday, May 29, and interment was made in the family plot in Aurora.

DR. C. B. PRESTON

Dr. C. B. Preston of Ashland, Kentucky, died at a Charleston hospital on June 3 at the age of 50 years. He was well known in this state where two of his brothers are in practice. They are Dr. B. S. Preston of Charleston, and Dr. D. C. Preston of Lewisburg. Three other brothers, including Dr. J. W. Preston and Dr. Stephen Preston of Roanoke, and one sister survive.

Funeral services were held at Ashland on the afternoon of June 4 and interment was made there.

Dr. Preston was a member of the Kentucky State Medical Association.

PIONEERS OF MEDICINE

The Grim Reaper shows little partiality. In an age when only children and lunatics raised such a question, Ilya Metchnikoff sought the answer to the query: "Why do we grow old?" Yet the man died of heart disease at the age of 71. He had hoped by laboratory study to learn what caused decay and gradual deterioration of the tissues, ending in death. Dr. Claude Lillingston presents a fascinating biography of Metchnikoff in his series of "Pioneers of Medicine," in the July *Hygeia*.

BOOK REVIEW

CHILD DEVELOPMENT

Growth and Development of the Child. Publication of the White House Conference released by the Century Company. Price $4.00.

No more important contribution could be made to the knowledge of children's health needs than a thoroughgoing study of nutrition in relation to growth and development. Such a study was conducted for the White House Conference on Child Health and Protection as part of the activities of the Committee on Growth and Development under the chairmanship of Dr. Kenneth D. Blackfan. The results of this study, which involved an examination of a vast amount of information gathered from observation and measurement of many individuals, from experimentation in the laboratories of Europe, the Orient, and the United States, and from the available literature on the subject, are presented systematically and fully in this the third part of the committee's study of the growth and development of the child.

Nutrition implies "a study of the food substances and of the bio-chemical processes which utilize them." This book, therefore, contains both an analysis of the components of diet and an account of the intricate chemistry of the body. The topics of discussion range from an appraisal of the national food supply to the feeding habits of children and the psychological facts in nutrition.

HUMAN STERILIZATION

Human Sterilization. J. H. Landman. The MacMillan Co. The broadening study of eugenics and heredity, and the realization that there are many individuals that are socially and mentally incompatible with the community have given rise in the past few years to attempts to limit the progeny of such people. The increasing burden the mentally unfit present has brought sterilizataion to the fore, as one method, approved by court decisions, and tried out in twenty-seven states. After reading this able and competent book one realizes the meagerness and flimsiness of our present knowledge of heredity as applied to mental disease, and it is refreshing to find the author presenting his data about the mental disease and human sterilization

in the United States unbiased by the usual warmly partisan argument. The perplexing problem of whom to sterilize and why has by no means been settled with scientific accuracy—R.L.

CORONARY ARTERIES

Diseases of the Coronary Arteries, Myocarditis. Sutton and Leuth. C. V. Mosby & Co., St. Louis. This book is an excellent résumé of our present knowledge of disease of the heart usually included under the term Chronic Myocarditis, enlightened by their experience with the cardiac patients on the wards of the Cook County Hospital in Chicago. The book is well written and well illustrated with pathological electrocardiograms. We were more interested in the section on the physiology and pharmacology of the heart.

MOTHER'S HANDBOOK

The Expectant Mother's Handbook. Frederick C. Irving. Houghton Mifflin Co. This book follows the usual order of the things that the expectant mother should know. The author, who is professor of obstetrics at the Harvard Medical School, has written a simple account which any woman can understand. The doctor can recommend this book to the expectant mother.

SUCCESS AND SICKNESS

Eugene O'Neill, three times winner of the Pulitzer prize in the drama and generally recognized as America's foremost dramatist, is only one among the many who have learned that illness has actually been training for achievement. Forced to remain in bed for several months, O'Neill maintains that it was while he was ill in Gaylord that his mind got the chance to establish itself and evaluate the impressions of many years in which one experience had crowded on another with never a second's reflection. Theodore Roosevelt, an illustrious example, Woodrow Wilson, Bobby Jones, Beethoven, Roger Babson, Mary Roberts Rinehart, and Elizabeth Barrett Browning are merely a few prominent persons who found achievement during illness. John M. Gibson mentions these and other personages in an article entitled, "Illness as Training for Achievement" in the July issue of *Hygeia.*

GENERAL NEWS

1933 OFFICERS

Dr. D. A. MacGregor of Wheeling was unanimously elected President of the West Virginia State Medical Association for 1933 at the meeting of the House of Delegates at Parkersburg on June 21. He will succeed Dr. Albert Hoge next January first.

Dr. MacGregor, President

The elevation of Dr. MacGregor to the Presidency came not only as a reward for his keen interest and service to the Association, but also in recognition of his ability and attainments in the field of scientific medicine. Dr. MacGregor is recognized as one of the leaders in the field of internal medicine in this state and the Association is to be commended for its sound judgment in selecting him as its head. It was felt at Parkersburg that Dr. MacGregor was one of the few men who could successfully carry on with the economic program inaugurated by Dr. Hoge.

The two vice-presidents who will serve next year are Dr. James McClung, Richwood, and Dr. T. L. Harris, Parkersburg. Both Dr. McClung and Dr.

Harris are outstanding leaders of the profession. Dr. T. M. Barber, Charleston, was re-elected for the sixth consecutive year as Treasurer.

There will be a number of new faces on the Association Council next year, several of the present councillors having served out their second terms. Dr. J. E. Offner, Fairmont, was elected to the Council to succeed Dr. C. W. Waddell; Dr. W. T. Gocke, Clarksburg, was elected to succeed Dr. George Snyder; Dr. W. R. Goff, Parkersburg, was elected to succeed Dr. R. B. Miller, and Dr. G. G. Irwin was elected to succeed Dr. R. H. Dunn. Dr. T. K. Oates, Martinsburg, and Dr. A. G. Rutherford, Welch, were re-elected.

In addition to the elected councillors, Dr. W. E. Vest, who has served for many years in almost every office of the Association, will retire at the close of 1932. Dr. C. H. Maxwell will retire as Council Chairman but will continue for one more year as councillor-at-large. Dr. Hoge will serve as Council Chairman next year.

Dr. R. M. Bobbitt, Huntington, was elected as chairman of the Committee on Scientific Work for the 1933 meeting. His two associates, also elected at Parkersburg, will be Dr. G. H. Barksdale, Charleston, and Dr. A. H. Stevens, Fairmont.

Several committee assignments were filled. Dr. E. P. Smith, Fairmont, was re-elected as chairman of the Committee on Professional Relations. Dr. W. P. Sammons, Dr. J. Ross Hunter, and Dr. W. T. Henshaw were elected on the Committee on Medical Education. The Committee on Necrology, headed by Dr. C. O. Henry, was re-elected.

Dr. James R. Bloss was re-elected for two years as Delegate to the American Medical Association. Dr. R. H. Walker, Charleston, was elected to fill out the unexpired term as delegate of Dr. H. M. Hall, deceased. Dr. W. E. Vest and Dr. H. T. Phillips, Wheeling, were elected as alternates.

Charleston was selected as the 1933 meeting place of the Association.

THE COUNTRY DOCTOR

For the first time in the history of commercially sponsored radio broadcasting the medical profession is to receive the recognition that is its due.

In his newest series of programs, which he has called "The Country Doctor," Phillips H. Lord, famous as the Seth Parker of the National Broadcasting Company, pays tribute to medical men of all classes and particularly to those who minister to the ills of the millions in the rural communities throughout the country.

The new program will be heard for the first time on Monday, June 20, at 10 P. M., New York time, over WJZ and the nation-wide NBC "blue network." The programs will be fifteen minutes in length and will be broadcast each Monday, Tuesday, and Wednesday night.

Mr. Lord has named his character Dr. Matthews, a kindly, gentle physician who might be found practicing in any of the thousands of small towns which dot the nation from coast to coast. He is skilled in the practice of his profession and shrewd in his judgment of his neighbors. He is tolerant when he may be and stern when he must be, and in his daily routine plays the rôles of brother, counsellor, and friend.

As Mr. Lord pictures him his suit may need pressing, his office may be crying for the touch of an orderly hand, and his bank balance might be better for the assistance of someone to collect his fees for him, but he is always ready, always efficient and always calm. He is solid rock, part scientist, part philosopher and part priest, and around him, in fair weather and in storm, sweep the waters of the community's life.

"The Country Doctor" will be almost a "one man show" for Mr. Lord. He originated the character and will write all the scripts. More than that, he will conduct the rehearsals, direct the broadcasts, and play the part of the doctor.

He is equipped for his many-sided job by a long and close study of the character he will portray—a study that began, unconsciously, in his boyhood. Mr. Lord is a product of a rural New England town. It was a country doctor who brought him into the world and it was a country doctor who guided him past the many ills of childhood and advised him as he was growing to manhood.

He saw the country doctor at work and knew him as a friend. As he grew older he often accompanied the original of the Dr. Matthews of the radio sketches on his visits to his patients. The things he saw and heard were stored up in his memory and it is upon this store that he now draws to give life to the radio character.

Though still a young man—he is not yet thirty—Mr. Lord has enjoyed outstanding success in radio writing and broadcasting. His character of Seth Parker is known to millions, and his "Sunday Night at Seth Parker's" program is one of the most popular radio features of all time. He also origin-

ated the characters of "Uncle Abe and David" and "The Stebbins Boys." The latter still is one of radio's most successful programs though Mr. Lord has disposed of his interests and no longer writes the sketches nor plays in them.

He looks upon "The Country Doctor" as the high point of his radio career and he has endeavored, in fashioning the character, to make him distinctive and unique, and a credit to the profession he represents.

MEDICAL DEPARTMENT RESERVE OFFICERS

Through the courtesy of the authorities of Western Reserve University and the hospitals of Cleveland, arrangements have been made whereby there will be given a period of fourteen days inactive duty training for Medical Department Reserve officers, without expense to the government. This training will be given at Cleveland, Ohio, October 9 to 22, 1932.

For the past three years such courses have been given with marked and growing success at the Mayo Foundation, and a similar course was established last year at Washington University, St. Louis, Missouri. The course offered at Cleveland is the first course to be given outside of the Seventh Corps Area, and is the only course that will be offered in the Fifth Corps Area during the current fiscal year.

These courses, to Medical Department Reserve Officers, present a two fold advantage: (a) medico-military instruction; (b) refresher course in professional subjects. The courses are so arranged that a reserve officer can devote his morning hours to a well arranged schedule at the Cleveland hospitals—Lakeside (University hospitals), City Hospital, St. Lukes Hospital, Charity Hospital, Marine Hospital and the Cleveland Clinic, collaborating, together with instruction at the School of Medicine and the Pathological Institute. The afternoon and evening hours will be assigned to medico-military subjects, the Cleveland Medical Library Association and the School of Medicine having offered their rooms.

The custom of taking annual study courses has become so general among medical men that statements about its advantages are unnecessary. Patriotic motives in the interest of national defense and the desire of reserve officers for advancement in the military service have created a demand for this opportunity where both ends can be served. Aside from the excellent opportunities for medical post-graduate work, this course offers a credit of 100 hours towards reappointment, and credit of 14 days active duty training toward promotion, to any officer taking the entire course and receiving an efficiency report of at least satisfactory; proportionate allowances of credit will be given for partial attendance.

Complete announcement of the program of instruction will be issued later. All applications for the course of training at Cleveland should be mailed to Brigadier General George W. Crile, Med.-Res., Commanding Cleveland Inactive Duty Training Unit, 93rd and Euclid, Cleveland, Ohio. These applications will then be forwarded to The Surgeon, Fifth Corps Area, for final approval. Applications made by officers residing outside of the Fifth Corps Area should be forwarded through their respective Corps Area commanders.

AMERICAN CONGRESS OF PHYSICAL THERAPY

Announcement is made of the eleventh annual scientific session of the American Congress of Physical Therapy, which, this year, will be held in New York City. The Hotel New Yorker, with its excellent convention facilities, will be the official headquarters. The convention will be conducted over the week from September 5 to 10, but, officially, the scientific sessions will be run on September 6, 7, 8, and 9. On September 10, clinics will be given at more than fifteen New York hospitals.

The preliminary program which has been arranged definitely marks the 1932 session of the Congress as the year's outstanding event in physical therapy. The leading teachers, clinicians and research workers in the field have accepted invitations, and will contribute valuable scientific information to this year's Congress.

Added features in connection with this year's program are the new sections on stomatology and colon's therapy. The demand for authentic instruction in these respective specialties has prompted the program committee to ask for scientific contributions from prominent clinicians. The response has been unusual, permitting the organization of a full day's program in each section.

The sections on Medicine, Surgery, and Eye, Ear, Nose and Throat will, as heretofore, include their various group and allied specialties. Cancer, tuberculosis, and arthritis are favorite subjects which will be discussed in interesting symposia. The subject of electrosurgery of tonsils will be adequately dealt with by prominent laryngologists in the eye, ear, nose and throat section.

The outstanding achievement in physical therapeutics, the production of artificial fever by dia-

theremy and its use in various chronic diseases, will occupy a special place on the program. Representative workers are prepared to present available data of their accomplishments with this newer therapeutic agent.

The Congress meets in the East for the first time in its eleven years of existence. This is the result of numerous invitations which have come from Eastern leaders engaged in the physical therapy science. From present indications this convention should attract the largest attendance in the history of the Congress. Preliminary programs may be secured by addressing the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

MEDICAL COLLEGE OF VIRGINIA

The Carnegie Corporation, New York City, has made an appropriation of $10,000 toward the maintenance of the library of the Medical College of Virginia, which will this summer be housed in a handsome new building.

Adjoining the new library of the college the Richmond Academy of Medicine has built its home and library. This will contain the famous Joseph L. Miller collection of rare first editions, engravings, silhouettes, medical curios, etc. The headquarters of the Medical Society of Virginia will also be located in the Academy of Medicine building.

ASK DECREASE IN NURSING GRADUATES

Aid in stemming the increasing stream of nursing school graduates is asked of hospital trustees throughout the United States by organized nursing in an open letter recently posted. The letter bears the signatures of the presidents of the American Nurses' Association, the National League of Nursing Education, the National Organization for Public Health Nursing, and of the chairman of the committee on distribution of nursing service of the A.N.A.

Five days in which hospitals may balance the extra cost involved in employing large numbers of graduate nurses are enumerated in the letter, following a brief picture of present overcrowding in the nursing profession. Further suggestions are sought from the hospital trustees.

"The broken morale of thousands of unemployed nurses has begun to react most unfavorably not on the number of young women applying but on the quality of applicants for enrollment in schools of nursing," says the letter. "This will inevitably increase when economic conditions improve unless the interested groups—hospitals, doctors and nurses—take effective action."

The best thought of all groups concerned will be needed to work out the adjustments in nursing service that the next few years will require, the letter points out. But certain steps can be taken now, it contends, to help tide the nurses over the present crisis without adding to the financial embarrassment of the hospitals. These steps will also provide a sound basis for future development, it is believed.

The nurses' suggestions for the present are as follow:

1. Better selection of students, thus cutting down the cost of carrying large numbers of probationers for several months only to eliminate from twenty-five to fifty per cent of them.

2. Employment of ward helpers, maids, orderlies, attendants, and secretaries to do a large amount of the routine work done by students.

3. Strengthening of hospital organization by the employment of graduate nurses who are available at relatively low salaries, thus giving the doctors nursing service uninterrupted by class attendance and the patients the care of more experienced nurses.

4. Tuition fees for students in schools offering a sound and well organized teaching program; also use of facilities of nearby educational institutions to save part of the cost.

5. Abolishment of allowances and use of the funds for teaching the students.

"The nurses' problem is due not chiefly to the economic depression but to the weakness of a system of accepting students primarily as workers in the hospital instead of selecting them as potential graduates for service in their community in the various types of nursing," the letter concludes.

PHYSICAL EXAMINATION AS AN INSTRUMENT OF RESEARCH

In research investigations, the United States Public Health Service states, the determination of the physical fitness or condition of a group of persons has proved a difficult problem. No simple solution is to be expected. It is necessary to piece together information from whatever source it can be obtained, with an eye to the precise nature of the investigation itself. All possible means of measuring physical condition must be brought into play—mortality, sickness, and the general physical examination.

Advancement of scientific knowledge rests to a large extent on the improvement of technique. In no field is this more needed than in that of the

physical examination. Today, although technique acquired with much difficulty is employed in making it, no two doctors really follow the same procedure. It must be made clear that the demands of analysis of data collectively are different from the absolutely necessary demands of clinical medicine. The physician, looking for definitely pathological conditions, will probably not fail to note any really serious and practically determinable condition. However, if the results are to be used for statistical purposes, differences in standards of judgment become extremely important, because the minor degrees of impairment are so much in the majority.

Thus the standardization of the physical examination is fundamental in research work. The following principles are suggested:

1. No impairment can be regarded as susceptible of quantitative analysis unless we can be sure that the condition has been looked for in each individual, and checked as present or absent.

2. Most impairments encountered in examinations are matters of degree, varying from slight deviations from the normal to very serious conditions. These degrees should be indicated.

3. It is necessary that these degrees mean more or less the same thing to the different examiners. Special intensive training of the examiners is required.

4. Special stress should be placed on the quantitative aspects of the examination, because these can be most effectively analyzed.

5. The examination should be "blind" in so far as practicable—i.e., the examiner should not know whether the individual is or is not exposed to a given hazard under investigation, or the degree of his exposure.

6. A thorough history is necessary, because the examination itself gives only a cross-section survey.

7. The presence of acute conditions at the time of the examination must be allowed for.

8. A minimum time should be set for each examination.

The rate for digestive diseases as a whole was below the average rate for the preceding ten years, but certain numerically important diseases of the digestive system failed to pursue a declining trend line. The most notable decrease as compared either with 1930 or with the ten-year average was recorded for diseases of the stomach (except cancer). A favorable rate, also, was shown for diarrhea and exteritis. Appendicitis, however, was reported at exactly the average incidence exhibited during the preceding ten years, and cases of hernia were more numerous than in the preceding year or in the ten-year period. For other diseases of the digestive system as a group the 1931 rate was also relatively high.

The incidence rate of nonrespiratory, nondigestive diseases was below the annual average frequency from 1921 to 1930. Within this very broad class of diseases, however, certain sub-groups showed rates in 1931 which were in excess of the ten-year average. Among these were certain diseases of the circulatory system, especially diseases of the heart, diseases of the genito-urinary system and adnexa (except nephritis), and diseases of the nervous system.

On the favorable side, attention may be called to a substantial decrease in the frequency of rheumatism (acute and chronic), diseases of the skin, and the epidemic and endemic diseases, exclusive of influenza. In the last-named group are typhoid, smallpox, measles, scarlet fever, whooping cough, diphtheria, mumps, erysipelas, and other important epidemic and endemic diseases which, as a group, decreased in frequency in 1931 in the population under consideration.

"AGRANULOCYTOSIS"

By J. L. T. APPLETON, JR., B.S., D.D.S.
School of Dentisty, University of Pennsylvania
Philadelphia, Pa.

Professor Appleton in his usual thorough manner covers this subject most completely. His Bibliography is rich and copious in material for those desiring references relative to this subject. His charts and tables, as well as his case reports are filled with bacteriological data, normal and abnormal ranges of the blood cell, in count and comparison; the summary of diagnosis in the differential phase is most interesting; the outline of accepted therapy is also recorded with fatal and recovered cases. Inasmuch as this is a live subject to not only the physician but also the dentist, I feel his material presented is authentically instructive and should be read by all called upon to diagnose and treat these cases.

He further states: "Agranulocytosis" well illustrates the essential unity of medicine, viz., interrelations between oral conditions on the one hand and extra-oral or general conditions on the other. The term might better be used to describe a symtom which may be induced by a variety of causes rather

than to a clinical entity, symtom complexes, or clinical syndromes. Even though the ulcerative and necrotic lesions of the mucous membrane, of the respiratory tract are secondary and not primary, this does not mean such lesions should be ignored as inconsequential to the outcome of the disease. Extraction of teeth may at times precipitate this blood picture. Bacteriological findings have been inconclusive as far as explaining the causative factor.

The author's discussion on treatment is, indeed, well presented in Table 2, in which he notes a long list of agents which have been used in the treatment of this disease. A designation is also made as to the number of cases recovered or fatal. If possible determine the cause and eliminate it. Blood transfusions, irradiation of long bones, topical medication of ulcers and the areas of necroses as well as hospitalization, good nursing, appropriate diet are all the measures most popular at the present time. Oral hygiene seems to be highly important in all cases either in maintaining cleanliness or using steps to prevent the appearance of the oral lesions, inasmuch as it does seem more reasonable for these lesions to develop in diseased or neglected mouths than in a healthy one. In the topical medication several preparations of high antibacterial power are available. Doctor Appleton designated the technique of Oropharyngeal treatment followed by Doctor Coriell, Baltimore, as being acceptable.

This paper has been tedious work in collecting, reviewing, recording, and concluding the worth while facts from a mass of already written material, and he expresses his gratitude to his colleague Mrs. C. K. Bryant.—E.C.A.

THE ENDOCRINES, GLANDS OF PERSONALITY

It is now widely believed, states the United States Public Health Service, that personality, that interesting combination of physical and mental peculiarities by which a person is judged, is largely regulated and controlled by the ductless or endocrine glands. With a knowledge of the function of the principal glands included in the endocrine chain, it is now possible to explain why one person is a midget and another a giant; why one is fat and another is lean; why one is under-developed and another is over-developed; and why one is stupid and another is bright. This science of the ductless glands, also known as endocrinology, aids us also in understanding why one person is hairy and another is smooth-skinned; why one is dark complexioned and another fair; and why one is hasty and irritable and another is phlegmatic. Many other mental and physical peculiarities, common and rare, which divide humanity into numerous types and beings, are now believed to be regulated by the ductless glands.

What are these ductless glands, which exercise so important an influence upon the human economy? First, it must be understood that a gland is an organ whose duty it is to manufacture a substance contributing to the proper functioning of the body. Some glands have ducts; others do not. The salivary glands and kidneys are examples of glands with ducts. However, in the present discussion we are concerned with glands that have no ducts but discharge their secretions directly into the circulating blood. These are the ductless or endocrine glands, also known as the glands of internal secretion. Some glands, for example, the pancreas, appear to serve simultaneously as duct and ductless organs, manufacturing both an internal and external secretion.

A ductless gland performs its functions through a secretion known as a hormone. This chemical substance, when carried by the blood stream, excites or arouses an associated organ to functional activity. Thus, for example, the hormone of the thyroid gland is concerned, among other things, with the physical and mental development of the body. Each ductless gland manufactures one or more specific hormones which acts directly upon the tissue concerned or indirectly through that portion of the nervous system over which we have no control. Moreover, the ductless glands are as interrelated as the links of a chain. Abnormality of one ductless gland usually means a disturbance of function in the others.

The most important glands possessing an internal secretion may here be mentioned. They are the thyroid, parathyroids, the suprarenals, the pituitary, the thymus, the pineal, certain portions of the pancreas and the reproductive glands. In addition there are other structures which may possess an internal secretion but about which comparatively little is known. These are the spleen, the prostate, and the two tiny pea-like carotid glands, one on either side of the neck. The kidney, liver, duodenum, mammary glands and other organs of the body are said also to have internal secretions, but this has not been scientifically verified.

Probably the best known of all the glands is the thyroid, a horseshoe-shaped collection of tissue located in the forepart of the neck. This gland is vitally concerned in metabolism, that sum of all physical and chemical changes by which living

organized substances are produced and maintained. The thyroid is also concerned with physical and mental growth, defense of the body against disease, balancing of the entire chain of endocrine organs, and many other duties as yet but partially understood. The infant without a thyroid lives in that state of perpetual infancy known as cretinism. When, as a result of disease or operation, the thyroid is absent or defective in function, the distinctive condition known as myxedema, or adult cretinism, intervenes. If the thyroid secretes excessively, serious illness ensues. Enlargement of the gland is known as goiter.

The parathyroid glands, varying from two to four in number, are usually hidden behind the thyroid gland. Each is a tiny, ovoid structure, somewhat flattened, and smaller than a melon seed. The principal function of these glands is the regulation of the quantity of calcium, an element essential to life in the blood and tissues. When the parathyroids are injured or removed, as occasionally happens during a goiter operation, a distressing malady marked by muscular spasms occurs.

At the base of the skull, behind the root of the nose, is a small space which is the seat of another ductless gland, the pituitary. Both the fore and back portions of this small structure have distinct functions. Thus, depending upon the portion affected, there may be undergrowth, excessive increase in height, giantism, obesity, and numerous other disturbances. The pituitary has aptly been termed the dwarf and giantmaker.

Perched atop of each kidney, cocked-hat in shape, is the adrenal or suprarenal glands. These ductless glands are also vital to life's processes. Among the numerous important functions ascribed to the adrenal glands may be mentioned the maintenance of muscle tone and blood pressure, as well as the effect whereby concerted and harmonious action is maintained in the other ductless glands. These are said to be the organs of courage or fear, fight or flight. Increased or diminished secretion of the gland causes disease or marked physical changes.

In front of the windpipe and behind the breast bone, its lower extremity in contact with the base of the heart and great vessels, lies another ductless gland, the thymus. This organ attains its greatest size about the second year and remains stationary until puberty, when it rapidly grows smaller until only a trace of it remains. Though no specific function for the thymus has been determined, it is surmised that it checks the too rapid development of the individual, especially of the reproductive glands.

The pineal gland is a tiny conical mass of tissue at the base of the skull cavity, behind the pituitary.

The secrets of the endocrine glands have been unraveled with the utmost difficulty. Only after the most patient, prolonged and painstaking observation and experimentation have some of nature's mysteries been penetrated. Furthermore, while some facts are now known, it is probable that scientists are merely on the threshold of more valuable discoveries. In any event, it must be apparent to the most casual reader that the endocrine glands are powerful factors in maintaining health and happiness.

REGURGITATION RENAL COLIC

It has long been thought that renal or ureteral colic was due to obstruction of the upper urinary passages, and that stone was the commonest cause of the obstruction. The work of Hunner served to emphasize the rôle of ureteral stricture, and also emphasized the part played by other factors, such as: ptosis, kinks, etc.

In the June number of the *Urologic and Cutaneous Review*, Bransford Lewis, (Regurgitation Renal Colic,) again draws attention to the part played by obstruction at the vesicle neck in the causation of renal colic. He reports the history of several cases in which typical renal colic occurred, and in which the diagnosis of stone was made. In these cases x-ray examination failed to reveal calculi. Further examination showed, in each instance, presence of a structural or spasmodic obstruction at the bladder neck.

Lewis points out that in these cases the amount of retained urine need not necessarily be very great. The condition developes because the slight increase in intravesical pressure is sufficient to cause reflux of urine through the ureteral valve, which the experimental work of Graves and Davidoff, and the clinical experience of MacCown, among others, have shown to be possible. Lewis emphasizes that there is a valve, and not a true sphincter, at the entrance of the ureter into the bladder.

Treatment in these cases is directed, first to emptying the bladder, afterwards to the relief of the underlying cause. This concept is one that must be kept in mind in those cases of typical renal colic in which no calculus is found.—G.G.I.

MONTHLY MORBIDITY REPORT
BY COUNTIES

MAY 1932	Chickenpox	Diphtheria	German Measles	Influenza	Measles	Meningitis Cer. Spi.	Ophthalmia Neonatorum	Scarlet Fever	Smal'pox	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough
Barbour		1									7	2
Berkeley		1										
Boone					21						3	
Braxton												4
Brooke		1	2		4			10		1	1	1
Cabell		1			34			4		11	1	3
Calhoun	5											2
Clay				4	20							
Doddridge	2			17	20							10
Fayette		2		9	210		1	2		2	1	1
Gilmer	2	2									1	
Grant												2
Greenbrier		1			9							
Hampshire												1
Hancock	4							2		1		
Harrison	16	6			16			6		3		14
Jefferson		5		4	4							4
Kanawha	2	5		18	112			9		7	2	21
Lewis		1			30							
Lincoln			8		30					1	1	
Logan		4			11			2				
Marion	2				19			1				
Marshall	11				57	1				1		11
Mason			2	32	2							67
Mercer	10	3	1	11	1			6		6	4	
Mineral	1	1		3	4			5		5		8
Mingo		2		6					3			20
Monongalia		1			21			3		3		2
Monroe										1		
Morgan				8				1				1
Nicholas		2										
Ohio	8				181			7		11	5	29
Pocahontas											1	
Preston		2			3			2			1	
Putnam					14					1		
Raleigh		2			51			3		1		
Randolph								2				
Ritchie					3							3
Roane					1			12				
Summers					100	2						2
Wayne	1						1					7
Webster				6	21							6
Wetzel		19										2
Wirt			6									
Wood		9						4		1		2
Wyoming	8				41							
Totals	72	71	19	1181	1040	3	2	81	3	56	28	225

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THE PRESENT VIEW OF THE PROBLEM OF CHRONIC (NON-SPECIFIC) ARTHRITIS, WITH PARTICULAR REFERENCE TO ETIOLOGICAL AND THERAPEUTIC COMPREHENSIVENESS *

By SYDNEY R. MILLER, M.D.
Baltimore, Maryland

INTRODUCTION. Arthritis is one of the oldest diseases of which we have any knowledge. That it perpetrated its ravages upon mammals long before the actual advent of man, appears to be an established fact; and it is safe to assume that this malady, so far as man is concerned, dates from time immemorial. Evidence of its existence has been found in human skeletons dating from the Stone Age. Someone has stated that it was the disease "par excellence" among the early Egyptians, and "when Rameses II, who is supposed to have been the Pharaoh of Moses, was building the temples in the Valley of the Nile, arthritis had already long established a dynasty of its own." To anyone interested, references and countless speculations upon arthritis, or rheumatism, as it was more usually called, can be found in the writings of almost all of those men famous in the annals of medical history, from Hippocrates down. It existed among the Greeks and Romans, who emphasized so much the importance of hydrotherapeutic procedures; and it is well known that victims of the disease have been going to certain of the more famous Spas in Europe for a period of well over two thousand years. It is absolutely certain, then, on an historical basis, that arthritis has been one of the commonest and most widespread afflictions of mankind. The very antiquity of the disease offers a ready explanation of the statement that no matter from what angle the subject may be approached, it can not be dealt with adequately within the scope of any one paper or, indeed, perhaps of any one volume.

Doubtless from its very beginning arthritis has always been one of the most serious social and industrial handicaps, and today it has attained an economic importance second to no other disease. Yet, curiously enough, only within relatively recent times has either the public or the profession commenced to regard it with more than casual interest and effort. This is rather an appalling statement, at first glance; yet it seems to be well borne out by certain statistics, familiarity with which is by no means widespread. In Great Britain, in 1927, the so-called "rheumatic diseases" came third among the lists of conditions for which physicians were consulted by fifteen million insured industrial workers. In the same year

* Read before West Virginia State Medical Association on May 21, 1932.

the British Ministry of Health paid out twenty-five millions in benefits for rheumatic disability, totaling a period of approximately six million weeks. In Switzerland, in the same year, there were, roughly, twice as many cases of permanent invalidism due to rheumatism as there were due to tuberculosis. The Swedish Government has already provided four hospitals for the exclusive care of chronic arthritis, and in that country rheumatic diseases rank in importance second to cardiovascular diseases, including those of old age. Accurate surveys as to the prevalence of arthritis in this country are, as yet, not widely available. A recent study made by the Massachusetts State Department of Health estimates that out of a total population of 4,400,000, there exist 10,000 cases af cancer, 25,000 of tuberculosis, 85,000 of heart disease, and 150,000 of so-called "rheumatism," or arthritis. Stated another way, there are approximately twice as many cases of rheumatism as of heart disease, six times as many cases as of tuberculosis, and fifteen times as many as of cancer. There is abundant evidence to believe that these figures represent a good average cross-section of what is true throughout the United States. The social and economic factors of arthritis, therefore, are obvious.

No originality, particularly, of either thought or effort, is claimed for the subject matter of this article. The essential motive which has prompted this discussion of arthritis has been with the hope of spreading, perhaps in a missionary sense, the general "Arthritic Gospel," which only within the past two or three years has been expounded through the efforts of the American Association for the Control of Rheumatism, composed of internists, surgeons and research workers, working both individually and in active coöperation with the International Committee for the Control of Rheumatism, organized three years ago. At this point it might well be profitable to incorporate, verbatim, the concepts adopted in 1930 by the American Committee, concerning the disease commonly called chronic rheumatism, or arthritis:

"1. The disease chronic arthritis, prevalent in all temperate zones, represents one of the most important, if not the most important, of existing social and industrial handicaps.

"2. The committee conceives of the disease as a *generalized disease with joint manifestations.* Certain prodromes may be recognized and it is of vital importance to the body politic that they be recognized.

"3. It is the opinion of the committee that at the present time *no single infectious agent* or any completely defined dietary deficiency *or metabolic disturbance* has been conclusively shown to be the sole cause of these disorders. The committee inclines to the belief that any one of these factors or certain combinations of these factors, under appropriate circumstances, may basically underlie the onset of the disease.

"4. The committee feels it of vital importance that *the medical profession have its conscience awakened* to the methods of treatment of proved value which are at present at its disposal. The committee feels that the lay public, through their medical advisers and through the public press, should also be made aware of the danger to their efficiency and happiness which the inroads of the disease imminently threaten.

"5. In the light of the foregoing considerations the committee purposes to broadcast, as widely as possible, both to the profession and to the public, its concept of the nature of the types of arthritis included under the heading chronic rheumatism, its belief as to the probable predisposing and exciting causes of the disease, and the knowledge which the committee possesses or may acquire as to the most efficient methods of treatment.

"6. It is the belief of the committee that optimism rather than pessimism should dominate the attitude of the profession toward this problem. In most cases *treatment should represent a combination of various coördinated measures of therapy rather than one single procedure.* Experience leads to the belief that under such circumstances an attitude of optimism toward the control of the disease is justified."

The following and necessary limited exposition of a very complex subject is presented in the hope that it will accomplish three things:

1. Alter an indifferent attitude toward a

group of chronic diseases, into one of acute aggressive interest.

2. Clarify the average conception of the problem, particularly for the general practitioner.

3. Put the problem of treatment in its proper comprehensive perspective.

II. *Rheumatism Versus Arthritis.* Time will not permit any lengthy discussion as to how and why so much confusion exists about the two terms, rheumatism and arthritis, which, incidentally, mean totally different conditions. Suffice it to say, however, the term rheumatism has for centuries included a great number of different though possibly related diseases or disorders, and as late as 1923 Wiesel collected "80 different conditions which have been at one time or another included under the general term of rheumatism." As knowledge grew, divergencies of opinion increased, and particularly in the nineteenth century, when so many of the conditions under discussion were thought to be atypical manifestations of gout. New theories, new classifications and new terms, based on anatomical changes or purely objective findings, on presumed etiological bases and on entirely unsatisfactory clinical groupings, added more and more to the complexity of the condition, and, as recently as 1902, led Sir William Osler to speak of the disease as "one of the most terrible of human afflictions." What is more significant is that as great a clinician as he wanted to sneak out of his back door and go over the fence, at the approach of an arthritic patient, so rumor has it, revealing clearly both the ignorance as well as the apparent hopelessness of treatment, which injected despair equally into the victim and the doctor. It has been only within the last twenty-odd years that our ideas have commenced to crystalize on this particular subject, or, as Barker states the problem, "rheumatism has been passed through a prism and has been broken up as white light is decomposed into its constituents, with the result that as a single entity rheumatism has disappeared. Indeed, we can well afford to let it go, for we lose nothing. As a word, rheumatism was false to its ancestry, for its accepted meaning has become quite different from that of its Greek parent."

Today, as a result of this prismatic breaking up of the problem of arthritis into its various proper components, through the correlated activities of many allied branches of medicine and science, we have come to a point where arthritis, in the sense in which it is here discussed, has been reduced into two main types of the disease, as shown in Table No. 1. This classification has been accepted at present as a working basis by the American Association for the Control of Rheumatism. In just what position these two groups, atrophic and hypertrophic arthritis, stand with reference to the many other types of specific arthritis, is well revealed by consideration of another classification of joint diseases recently advanced by Allison and Ghormley, in their excellent monograph, "Diagnosis in Joint Disease," published in 1931. Table No. 2,

III. *The Clinical Picture of Atrophic Arthritis.* The typical clinical picture of atrophic arthritis is fairly clear-cut. Patients afflicted are more often than not under-nourished, of the asthenic and ptotic build, "active in mind and body but easily fatigued," who are moderately anaemic, frequently have had all of the infections as they came along—in fact, they have been rather chronically in poor health. The incidence is at least twice as frequent in women. Frequently there is a clear-cut history of arthritis in one or more of the immediate members of the family. Though the arthritic manifestations may develop at any age, they appear in at least eighty per cent of the instances between the ages of twenty and forty or forty-five, coming on rarely with acuteness, more often in a subacute or insidious manner as vague or migratory pains, intangible aches here and there, or as general malaise. Ultimately, multiple joints, usually symmetrically arranged, begin to show swelling and soreness on motion, most commonly the knees and smaller joints, particularly the proximal interphalangeal joints

of the hands, associated with which there may be periods of fever, sweating at night, then a subsidence, only to be followed by the involvement of more joints, with, ultimately, invasion in almost all of them. The commonest early picture that one encounters is one of the so-called fusiform swellings of the fingers. As time goes on, disuse through pain, as well as disability, gives rise to perceptible muscular atrophy. Ultimate progression leads, through pathological changes, to ankylosis and deformities of extreme and bizarre types, with flexor contractions as the commonest. These patients, long before arthritic changes have become manifest, are the obvious possessors of an unstable vasomotor system, whose skins are thin and shiny, whose hands and feet are often cold and clammy, who show early evidences of conditions at least related to Raynaud's Disease, who are notably influenced by alterations in barometric pressure and humidity changes, who feel the damp and cold days uncomfortably, and welcome the heat of summer. In the well advanced cases, subcutaneous nodules are commonly found, as are localized enlargements of the various glandular groups. Despite the close resemblance to acute rheumatic fever, cardiac involvement is the exception rather than the rule. Viewed early, x-ray changes are rather conspicuous by their absence; and aside from the visibly enlarged periarticular space and swelling of the periarticular tissues, bony changes are in abeyance. As time goes on, distinct atrophy of the bones occurs, as revealed by diminished density in the x-ray shadows; yet the joint margins *remain smooth,* and bony proliferation does not reveal itself except in the latter stages of ankylosis, which may be either fibrous or osseous in nature. On physical examination, these patients usually reveal evidences not merely of foci of infection in the teeth, tonsils, sinuses, genito-urinary tracts, etc., but show, as Osgood states it, "foci of ill health as may be revealed by evidences of endocrine, metabolic, gastrointestinal or central nervous system disfunctioning." Unless recognized early and appropriately dealt with, the end results of such a picture lead to an increasing downhill course, characterized more and more by anorexia, deforming contractures, and hence increasing disuse, with terminal circulatory and trophic disturbances, ultimate confinement to the wheel-chair or bed, complete uselessness, utter despair, and release, oftentimes only after many years of suffering, by the tender agency of some intercurrent disease.

IV. *The Clinical Picture of Hypertrophic Arthritis.* In contrast, the victim of hypertrophic arthritis is usually an individual who is hale and hearty. This type rarely makes its appearance before the age of forty, and invariably in an insidious and insinuating manner, unaccompanied by the migratory aches and pains characteristic of the atrophic type. These patients are well nourished, often obese; they are not anemic. With rather great regularity one can elicit the history of a similar form of arthritis in antecedent members of the family. The larger joints are more frequently involved; they are not often symmetrically affected; they are irregularly enlarged, gnarled in appearance, and dry and grating instead of doughy, like the atrophic ones. Of the smaller joints affected, the commonest early manifestation is the familiar Heberden's node, coming on the terminal joints of the fingers, and first described by Heberden in 1803. Pain is not as conspicuous a complaint as is discomfort; and though the joints may show progressive enlargement, there is rarely that degree of disability which results either in pronounced muscular atrophy or ankylosis. The early findings by x-ray examination reveal little but slight lipping or irregularity along the joint margins, progressing with articular destruction to pronounced lipping, increasing density of the bone, or eburnation, and the ultimate formation of hyperostosis and the liberating often of free osteophytes in the joint cavity. Table No. 3.

V. *Remarks on Etiology.* The prismatic breaking up of rheumatism or arthritis into its various components has clarified and enlarged the perspective as to the etiological

factors, which operate in varying degree and in ways as yet not clearly defined, in the production of either type of arthritis. Back of each of them there seem to be certain basic factors which are vaguely intertwined with those terms, heredity, constitution and body-build, which presumably afford the substratum for the so-called arthritic predisposed individual. Such an individual may have his predisposition fanned into deforming actuality, apparently by a host of influencing factors, concerning each of which much might be written. *Fatigue*, whether mental, physical or emotional, seems to be one of the most powerful mechanisms whereby the resistance of the individual can be lowered to the danger point and render him then easily susceptible to the devastating invasion from single or multiple foci of infection. This holds particularly true, in the opinion of most observers, in the atrophic form, and applies with very much less emphasis in the hypertrophic variety. In the writings of Hippocrates, case mention is made of a patient suffering from a joint trouble which improved greatly following "the freeing of the mouth of much disease." Over a century ago, Benjamin Rush drew attention to the apparent relation between dental infection and rheumatic disease; but only in the last twenty-five years has the great importance of chronic focal infection been appreciated, in the causation of arthritis. The examination of the evidence bearing on this particular phase of the problem strongly suggests that infection *is* responsible, but *how* responsible is as yet impossible to define. "No one can minimize their great importance, but certain things suggest the possibility that these focal infections may be the result of ill health quite as well as the exciting cause of it." Perhaps, as Pemberton says, "The problem of infection, of which so much has properly been heard in recent years, is seen to be in many cases only the precipitating agent, at least. As an illustration of this, one need only ask why the hosts of persons harboring focal infection have not all arthritis. Perhaps focal infection is the result of the background rather than the cause of it; and though it be true that joints, neighboring tissues, glands and blood cultures may at times harbor organisms, usually of the streptococcus type, it has by no means been proved that this occurrence is constant, or even when existent that it represents anything more than an invasion from without, into tissues of reduced vitality." This one etiological factor could admittedly be the subject of many hours of spirited discussion and debate. Suffice it to say, this etiological phase of the problem is not settled yet. The more recent work of Russell Cecil and his associates on the etiology of atrophic arthritis is, to say the least, significant, in the sense that streptococci have been recovered from the blood in 62.3% of "rheumatoid patients," and in 67.3% from their affected joints. His studies further show the presence of high agglutination titres against "typical strains of streptococci" in 94% of patients with atrophic arthritis, and agglutinin disappearance with recovery from symptoms in adequately treated cases. These findings are a distinct challenge both for wide confirmation and to those who are prone to accept the rôle of bacterial allergy in the causation of atrophic arthritis, reasoning along the hypothesis which Zinsser has postulated to explain the joint symptoms of acute rheumatic fever.

Other etiological factors of variable importance are malfunctioning of the gastrointestinal tract, particularly, it is thought, in the colon; an excessive, inadequate or unbalanced food intake plays its part; the predisposed individual seems frequently to blossom into acute illness, following admitted exposure to cold or dampness; and, as has been mentioned elsewhere, a congenitally inherited, poor, unstable nervous system, particularly the sympathetic, which presides over the vascular supply, may well be operative along with all the others in bringing about that preparation for which the soil was innately prepared by the basal factors referred to. To what degree errors of metabolism, inborn or acquired, play a part, through what agency endocrine disturbances figure, and how it is that any or all

in combination may bring about an opening of the door and the beginning of the joint changes, it is as yet impossible to state. Trauma is a very common precipitating factor, and particularly habitual trauma, such as one often sees in the hypertrophic type, with obesity and abnormal physiological strain through postural defects, incidental to mode of life or vocation. Whichever factor seems most dominant, the etiological conception of the disease in either form must needs be, at the present time, a *comprehensive* one—one which seeks to discern not merely the cause but the effect of the cause, in its ability to lead to various disturbances, local or systemic, in the normal physiology of the body, with a gradual undermining of the individual as a *whole* and the ultimate development of joint disturbances as *one* of the manifestations of a diffuse and generalized process. Table No. 4.

VI. *Remarks on Prevention and Therapy.* Provided it be true that these two types of arthritis arise as the result of multiple etiological factors, it is at once apparent that adequate prevention and proper treatment must be equally comprehensive in their conception, if improvement in either the local manifestations or systemic symptoms of the disease is to be looked for. Perhaps nowhere is this general therapeutic program better stated than in a recent article by Osgood, who summarizes the problem this way: "It behooves us to set our human houses in order at the earliest possible moment, by seeing to it that

"1. Fatigue and excessive nerve out-go are eliminated.

"2. Our bodies are well set up, and working on sound mechanical principles.

"3. The food fuel to run these machines is of the right sort and quantity, and that the waste products of combustion and nutrition are regularly and completely carried off.

"4. Colonies of harmful bacteria, whether they represent cause or effect, be eliminated, either by calling out the defensive mechanisms of the body gradually to overcome them, or by a direct surgical attack on their stronghold.

"5. An examination is made of the various systems of the body—alimentary, circulatory, nervous, endocrine, etc., looking to the correction of any disfunction of these systems by rest, by exercise, by training in body mechanics, by physiotherapy, by drugs, by glandular substances, perhaps even by surgery." —And, one might add, by the appropriate use of such *imperfectly understood* therapeutic procedures as non-specific protein injections, vaccines, and not least of all, sustaining psychotherapeutic measures, which go far toward enabling the victim to face his or her problem of chronic disease.

Time and space do not permit of any detailed discussion of the many therapeutic measures which apply, in varying degree, to the successful treatment of a case of chronic arthritis. Adequate therapy presupposes a detailed study of the individual as a whole, and invariably demands "perseverance for an indefinite period of time with the recommendations given; to teach the art of living is often the chief prescription to prevent arthritis; all patients must be treated intensively with optimism, not half-heartedly, and never with casualness on the part of the physician."

Unfortunately, unanimity is still lacking as to the indications for or against the use of such measures as vaccines—autogenous or stock, non-specific protein therapy, particular diets, colonic irrigations, the value of drugs, physiotherapy in its various forms, heat and ray therapy, climate, exercise and high vitamine regimens. Such therapeutic chaos, however, is not as bad as it may appear, if one but remembers, openmindedly, that each one of these therapeutic procedures "has its place in the complicated program necessary in any attack upon the arthritic problem." The time has passed when any physician can be dogmatic in the exploitation of any single measure for the relief of either type of chronic arthritis; the arthritic, be he atrophic or hypertrophic, must be comprehensively treated after good judgment has been exercised in the evaluation of all the possible and demonstrable etiological factors. Good judgment

consists in an accurate knowledge of the facts, combined with a proper consideration of the value of things.

Basically, all concur in the wisdom of eradicating all foci of infection in both groups, but particularly in the atrophic type of arthritis. All agree that by any suitable means whatsoever, the eliminative functions must be maintained to the level of physiological normalness. Diet would seem to vary with the individual; overweight and obesity need reduction, the undernourished demand weight acquisition; calories must be kept as low or as high as is necessary to retain normal weight. At present, a vitamine rich, carbohydrate or starch low diet seems indicated; red meats need *not* be curtailed, nor should these patients be denied fresh fruits and plenty of them, notwithstanding popular and medical prejudices as to "acid foods" and "acidity of the blood." Water in abundance, as well as milk, is wholesome. Heat, massage and exercise in proper amounts, apply in all instances, since the affected joints of both types have diminished or defective blood supply. Proper clothing, ventilation, a reasonable daily mixture of play, work, and rest are invaluable. All needless, fatigue-producing expenditures, physical, mental or emotional, demand serious consideration. Postural defects need orthopedic correction; and traumata, no matter how sustained, require deletion.

To such commonsense physiological measures there may be added the use of drugs, of which arsenic, iron, the salicylates and strychnine deserve first mention. Endocrine therapy may be clearly indicated, but is more often purely empirical in the cecum in our present state of knowledge. Vaccines have an unquestioned value, despite their apparent failure in many instances; nor is it yet known whether they act in a truly specific biological sense, or by a non-specific protein reaction mechanism. In any event, autogenous vassines, prepared from cultures from the blood, joints, enlarged glands or removed infectious foci, seem preferable to stock preparations. The dosage is not fixed, but should be kept below that amount which produces any marked constitutional reaction. Non-specific protein shock therapy, no matter how induced, is not entirely free from danger—nor regularly productive of good results, transient or permanent; if the good results are to be obtained mainly on the basis of increased blood supply and metabolism secondary to the induced hyperpyrexia, its use is justified, but not to the exclusion of simpler and safer measures which produce the same effects. Colonic irrigations, admittedly helpful in a small percentage of cases, are to be avoided as "routine procedures"; they do not materially alter the bacterial flora of the large gut; desirable daily cleaning of the colon can ordinarily be secured by less faddish measures than the passage of rubber tubes into the cecum. Whatever may be our cherished ideas or dogmas as to the treatment of the arthritic, the lesson to be learned is that in any well developed case the patient should have as many therapeutic agencies, sanely applied to his case, as is possible. This view-point is well revealed in a chart recently published by the American Association for the Control of Rheumatism, modified slightly by the author. Table No. 5.

VII. *Conclusions.* It would appear that the following statements, in the light of our existent knowledge, can safely be made.

1. Two types of chronic arthritis, the atrophic and hypertrophic, are sharply to be differentiated from a large group of arthritis, of specific or known etiological origin.

2. These two types may be readily recognized, not only in their fully developed clinical manifestations, but can be predicted in a relatively high percentage of individuals with predispositional stigmata that are forewarning signals.

3. The etiological factors which adversely influence the predisposed individual, are multiple; and there is much to refute the current thought that infection alone is the sole and attackable factor, particularly in the atrophic type. An equal amount points to the view that hypertrophic arthritis is seldom due to infection.

4. The same therapeutic measures which are to be comprehensively employed in the treatment of a well established case, apply with equal effectiveness in the theoretical prevention of these diseases of admitted serious economic importance.

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TABLE NO. 1

The following terms

1. Rheumatoid arthritis
2. Chronic infectious arthritis
3. Arthritis deformans
4. Rheumatic arthritis
5. Chronic rheumatic arthritis
6. Chronic rheumatism
7. Primary progressive arthritis
8. Secondary progressive arthritis
9. Proliferative arthritis
10. Ankylosing arthritis
11. Poker back spondylitis
12. Strumpel-Marie disease
13. Still's disease (children)
    are synonymous with
    Atrophic arthritis
    (American Terminology)
    or
    Rheumatoid arthiritis
    (British Terminology)

The following terms

1. Osteo-arthritis
2. Arthritis deformans (German usage)
3. Senile arthritis
4. Menopause arthritis
5. Degenerative arthritis
6. Malum coxæ senilis
7. Von Bechterew's Syndrome
   are synonymous with
   Hypertrophic arthritis
   (American Terminology)
   or
   Osteo-arthritis
   (British Terminology)

TABLE NO. 2

Classification of Joint Diseases

(Allison and Ghormley)

I. ORIGIN KNOWN

a. Traumatic arthritis	Synovitis Loose bodies and cartilages Sprains, etc.
b. Bacterial agent	1. Tubercle bacillus 2. Gonococcus 3. Staphylococcus 4. Streptococcus 5. Pneumococcus 6. Typhoid bacillus 7. Dysenteric 8. Syphilis 9. Influenza bacillus 10. Rheumatic heart disease, etc.
c. Arthropathies	Tables dorsalis Syringomyelia Leprosy, etc.
d. Constitutional disturbances	1. Gout 2. Hysteria 3. Hæmophilia 4. Intermittent hydrarthrosis 5. Anaphylactic reactions.

II. ORIGIN UNCERTAIN

1. Proliferative arthritis
2. Degenerative arthritis
3. Unclassified

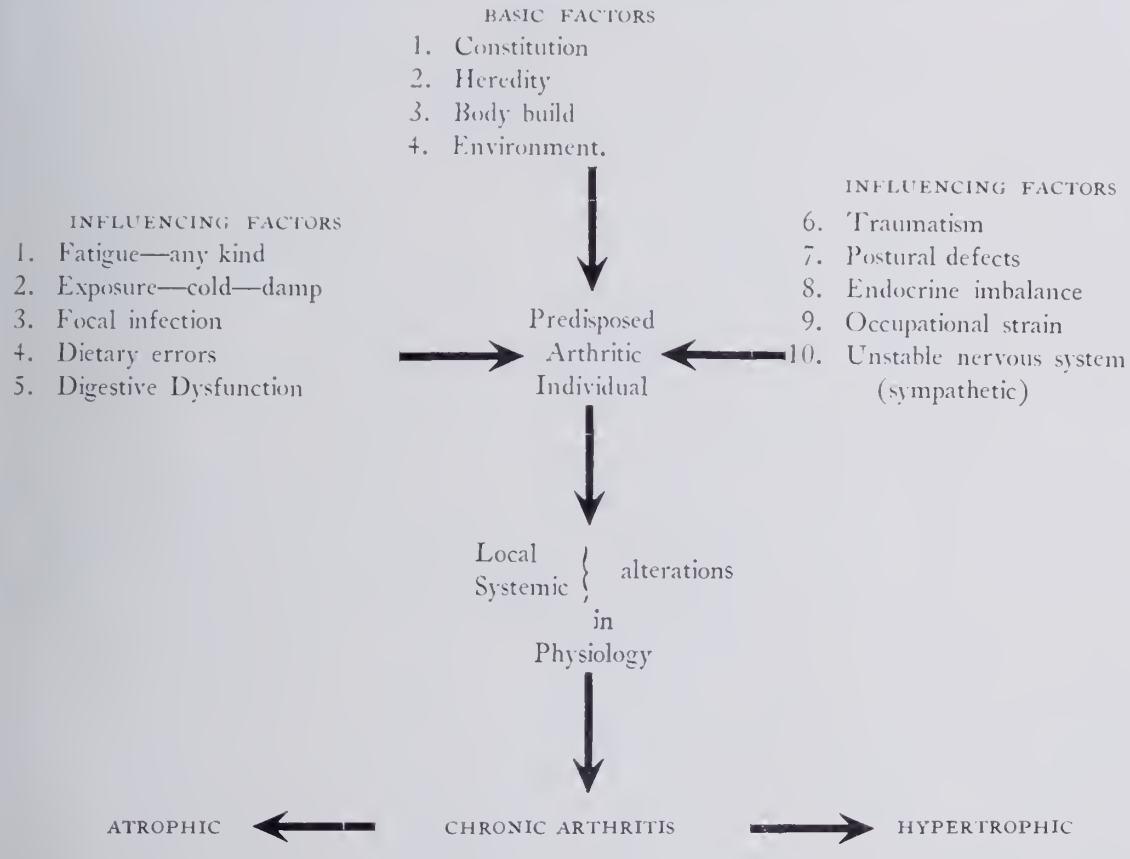
TABLE NO. 3

Differential Diagnostic Points in Chronic Arthritis

A. CLINICAL FEATURES	ATROPHIC ARTHRITIS RHEUMATOID ARTHRITIS	HYPERTROPHIC ARTHRITIS OSTEO-ARTHRITIS
1. Age	Infancy to middle life.	Middle life to old age.
2. Sex	Three times commoner in women.	Sexes about equal.
3. Onset	Acute—subacute—insidious.	Insidious.
4. Body type	Thin — asthenic — ptotic — easily fatigued—anemic.	Hale—hearty—well nourished.
5. Symptoms	Pain — disability — fever — sweats — tachycardia. Look ill. Low B. P.	Pain and disability slight—afebrile. General health usually good.
B. JOINT CHANGES	Multiple involvement.	Monarticular involvement often.
	Symmetrical distribution common.	Asymmetrical distribution.
	Smaller joints most affected—all may be involved.	Large joints most affected—early Heberden's nodes.
	Particular changes first.	Endarticular changes first.
	Spindle-shaped, doughy swellings.	Irregular—gnarled—dry—grating.
	Local heat.	No local heat.
	Early limitation in motion.	Little, if any.
	Muscular atrophy common.	Uncommon.
	Fibrous or bony ankylosis common.	Rare.
C. X-RAY CHANGES Early	No cartilage or bone changes.	Early lipping or fibrillating of articular margins.
	Increased density soft parts.	
Late	Cartilage destruction.	Hyperostosis: osteophytes.
	Decreased bone density = ATROPHY.	Bone density +. Eburation late.
	Narrowed articular space.	Joint space narrowed.
	Articular margins regular—dull.	Margins irregular—sharp.
	Ankylosis.	True ankylosis rare.
D. LABORATORY FINDINGS	Anemic common. WBC +.	Usually absent. WBC normal or +.
	Sedimation rate increased.	More commonly normal.
	Blood cultures } may be positive.	
	Joint cultures } for streptococci.	Negative.
	Achlorhydia common.	Unusual.
	Basal rate—variable: N. in 20%.	Usually normal.
	Blood chemistry—not diagnostic.	Uric acid may be increased.
	Renal function—usually normal.	Ditto.
	Lowered sugar tolerance (?).	Sugar tolerance normal.
	WaR. + or —.	WaR. + or —.
	Streptococci agglutinins + +. (Cecil.)	Absent.

TABLE NO. 4

Etiological Factors Which Play a Part in the Onset of Chronic Arthritis



Type depends on age—sex—nature of infection, degree and frequency of trauma, etc. Arthritis initiated, progresses in proportion to the continuance or elimination or correction of any combination of influencing factors. There is no Etiological Entity in any case of either form of Chronic Arthritis.

TABLE NO. 5

Comprehensive Therapeutic Program in Chronic Arthritis

This should aim at both *Local and Systemic* involvement in disturbed *Physiology*, through.....

1. *Rest*—
   (a) *Local* rest of *Joints:* atrophic ones need careful daily exercise: hypertrophic—guarded and protective.
   (b) *Systemic:* improve nervous balance—muscle tone—general powers of repair—resistance, etc.
2. *Intelligent* correction of toxic or focal infection factors—especially in Atrophic Arthiritis.
3. *Optium* efficiency and functioning of G. I. Tract.
4. *Maintenance* of balanced ration—adequate vitamins. Avoidance of excess C. H. stressed.
5. *Physical therapy*—especially Heat and Massage, to improve local and systemic vascular supply—improve metabolism—promote drainage—increase sense of well-being. Light therapy beneficial.
6. *Orthopedic correction* of postural defects—postural exercise for ptosis—faulty breathing, etc.
7. *Vaccines:* non-specific proteins.
8. *Drugs:* Arsenic—Salicylates—Strychnine—Thyroid.
9. *Appropriate psychotherapy* to meet the problem.
10. Patient—persistent—optimistic—meticulous supervision.

THE CONSERVATIVE TREATMENT OF HEAD INJURIES *

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A MAN doesn't have to be reminded that his skull has been fractured if he can feel his brain pulsating through a skull defect, but he is apt to be continually reminding his physician, his employer, and his insurance company of the fact. Even if no damages are collectible, this man will regain his mental equilibrium much more slowly than will the man whose skull is intact even though the latter's cerebral injury is more serious. Such is human nature. There is much more sentimental value attached to the skull than to the underlying brain.

This is not a plea for conservation of the integrity of the skull, but it is a plea against indiscriminate craniectomy merely because a patient goes bad in spite of more conservative measures. Subtemporal decompression is never curative unless significantly large clots can be removed from the surface of the brain. Moreover, the operation may be the final insult necessary to determine a fatality. Mock[1] has pointed out that the highest mortality from skull fractures occurred during the period when decompression was at the height of its popularity, and Grant[2] rarely operates unless a clot can be positively diagnosed. Even in the event of a depressed compound fracture, immediate operation is frowned upon. As for suturing the scalp, it is universally felt that in cases of serious head injuries, this innocent pleasure must sternly be denied to the interne.

It is, perhaps, well that the trend is swinging away from the surgical treatment of head injuries. Too often has it led to a despairing attitude on the part of the physician who first sees the patient and treatment is delayed until the intracranial damage has gone beyond the bounds of possible control. In these days of high speed transportation and powerful machinery, nobody can tell when he will be called upon to give the all-important first aid

* Read before the Central Tri-State Medical Society, Charleston, West Virginia, May 19, 1932.

in a case of serious head injury. The surgeons rather than the physicians are leading the way in the direction of conservative treatment, and particularly the neurological surgeons, so that their views deserve most serious consideration.

Physiology of Cerebral Injury. While it is dangerous to be dogmatic about head injuries on account of their variety of form, location and severity, some points seem well established on the basis of the physiology of the intracranial circulation, and these may briefly be sketched.

The skull is an elastic hollow structure and a sudden blow may deform it considerably without fracture except possibly through the base. The brain, however, does not give as quickly as the skull; hence it is liable to bruising not only at the point of impact but also at the opposite pole. Moreover, the inertia of the brain is such that although buoyed in its fluid medium it will strike sharply against the cranial wall following sudden displacement of the head.

Sudden injury to the brain throws the normal mechanisms out of gear with resulting unconsciousness and shock. The fall of diastolic blood pressure below 40 mm. Hg. causes the red blood cells to lose their oxygen before they reach the tissues, with resulting loss of oxidation and consequent acid formation and local edema. The contused brain swells inward rather than outward and this edema rapidly spreads through the brain. When the patient reacts from shock, therefore, he is faced with the necessity of re-establishing the cerebral circulation in the face of intracranial hypertension. This may be difficult to do because of swollen contused brain tissue, and the difficulty is increased if there is an effusion of blood over the surface of the brain compressing the dural sinuses and preventing proper resorption of cerebrospinal fluid through the normal channels. If, in addition, a major clot forms, the resistance to the restoration of the cerebral circulation may be too great to overcome and the patient will die. Only the last condition is amenable to operation, however, and only if clot formation can be positively diagnosed is early operation justifiable.

Immediate Treatment. Shock is the symptom of primary significance and must be treated without regard to anything else. No suturing should be done, no x-ray and no examination while shock is present; only a minimum of movement, and of sterile dressing to obvious contusions. The old adage, "Split 'em where they lie" is doubly applicable if other injuries are present, since fat embolism will add to the shock and later difficulties. External heat and prone position with the feet elevated will aid the cerebral circulation. But the restoration of fluid volume is the most urgent factor in shock. Of all the remedies, the intravenous administration of 50% glucose is the most perfect. This not only draws fluid into the blood stream by osmosis, but draws it from the patient's tissues and especially from his injured tissues, making later restoration of the circulation more easy and prompt. Forty to 60 cc. may be given at once and repeated after an hour if shock is not relieved; the second dose with 200 cc. normal saline. During the period of shock no operation whatever should be undertaken. Cleansing the external wounds, dressing the bleeding ear with the same asepsis that would be accorded a compound fracture elsewhere, and taking records of temperature, pulse and respiration every fifteen minutes with frequent blood pressure readings, will be the proper program for the first couple of hours. Restlessness should be controlled by barbituric acid derivatives, never by morphine which depresses respiration.

When the period of shock is over, the patient may be submitted to more careful examination, x-ray, and diagnostic lumbar puncture, and an estimate of the severity and location of the injury obtained. This will guide local treatment if there is to be any. Rapidly developing compression by a growing clot occurs in about a third of the cases and is recognized by deep stupor, slow pulse, high pulse pressure and a fixed dilated pupil on the affected side. These are the only symptoms demanding early operation. If they are absent, operation will usually do no good and may do evident harm. In the usual case, the symptoms of cerebral edema de-

velop with restlessness, fever, slowing of the pulse and rising of the pulse pressure. These symptoms call for therapeutic spinal drainage and for dehydration by repetition of the intravenous injection of 50% glucose, or, if the patient is able to swallow, the administration of 50 grams of magnesium sulfate in a minimal quantity of water. Fay[3] gives a useful rule: "When the pulse rate falls below the pulse pressure, dehydrate."

Of all the signs of value in determining the state of the circulation, the pulse rate is the best. A slow pulse means cerebral compression, a rapid one, inadequate blood volume. The pulse, therefore, should be maintained between 100 and 120 until signs of improvement are definite. The blood pressure is a useful check on this, a rising pulse pressure being significant of vagus irritation from cerebral compression.

The question of lumbar puncture is debated. If the skull has been fractured and fluid is running from the nose or ears, the pressure in the spinal canal will probably not be elevated and the withdrawal of fluid may even aspirate air into the subarachnoid spaces producing pneumocephalus, a dangerous complication. The danger of herniation of the cerebellum through the foramen magnum is not to be lost sight of should there be severe compression from above. Bagley[4] believes that too free drainage of spinal fluid may prevent dilution of the blood effused over the surface of the brain and thus add to difficulties in later absorption. However, these objections are more theoretical than practical. A good rule to follow is to drain the fluid as long as the pressure is elevated. The importance of accurate measurements of the fluid pressure is emphasized, mere observation of the rate of flow being often misleading. Spinal drainage may be performed every 12 to 24 hours.

If the cerebral edema remains and the patient appears to be getting worse with rising pulse and fever, blood transfusion and oxygen inhalation may serve to reestablish the impaired cerebral nutrition sufficiently to control the edema. Few patients should die twelve or more hours after the injury unless complications are present. The management of such complications (depressed fractures, meningitis, abscess, etc.,) can not be considered in this paper.

Later Treatment. Real conservation is necessary in the later treatment of head injuries. Prolonged rest both mental and physical is necessary since various symptoms are liable to develop making life a burden to the patient. Granting that the patient was a competent, alert, useful citizen before his accident, the whole picture may change even though hospitalization may have lasted but a few days. In Hadley's[5] graphic description: "He now complains of a generalized headache and is dazed and confused as to his surroundings. He recalls events just prior to his injury in a general way but on account of his inability to associate ideas can not explain his present condition. Any effort in association increases his perplexities and he takes refuge in sleep. * * * On being aroused for his meals, he is grossly irritated and demands to know why he must continually be annoyed. He wishes to be alone and be allowed to sleep and to be quiet. He suffers from hyperacusis and covers his head so that he can avoid hearing the harsh voice of the nurses and the other patients upon the ward, the rough steps in the corridor and the countless discordant sounds about him. He is moved to a private room where he is more contented, but the light hurts his eyes and the window must be darkened. With the window closed, the room seems to him hot and suffocating, and, with it opened, he chills. At times the summation of irritative stimuli is so great that he becomes quite excited. An explosive reaction, with accompanying vasomotor disturbances, ensues."

The outstanding characteristics of the post-traumatic "constitution" are headache, irritability, difficulty in concentration, tendency to hysterical crying, panicky states, and hypersensibility of the special senses. A marked intolerance of alcohol is always present. Loss of consciousness with convulsive seizures is occasionally observed. Defects of various

sorts may be added, due to direct and often permanent injury of parts of the brain.

It is a grave error to call a man neurotic when he presents the above signs, especially when his past record is good. No ground is gained by telling him to get back on the job and forget it. A bruise on his forehead may disappear in a couple of weeks, but a bruise on the brain lasts many times as long. The fact that these individuals do recover eventually is proof of the adventitious nature of the symptoms. The most certain way to abolish the symptoms of cerebral trauma is by enforcing, in spite of everything, a prolonged period of complete rest. Fortunate is the man who sustains a broken leg at the time he fractures his skull! This will keep him in bed while the major part of the damage is being repaired, and will start him on the road to recovery. For every day of unconsciousness let him spend a week in bed. Restriction of fluid intake is advisable for a long time, one to six months. His liquid ration should not exceed 800 to 1000 cc. per day, including soups and puddings, as well as beverages. Sedatives of the barbituric series and analgesics are the most necessary drugs for the irritability and headache.

If the condition of the patient does not yield to rest and sedation, a very useful procedure is insufflation of air by lumbar puncture. This may act by breaking tenuous adhesions about the longitudinal sinus resulting from the former effusion of blood, and reestablish normal drainage of fluid into the sinus, or it may act by freeing the mass of the brain from its enforced intimacy with the rigid calvarium. With the patient lightly anesthetized with sodium amytal (gr. VI to XII) or with avertin (100 mg. per kilo.), lumbar puncture is performed, and the spinal fluid replaced 10 cc. at a time with air. It is well to have the patient supported in the sitting posture, the point of maximum intensity of the headache at the highest level. By manipulating the head and body, the ventricles may be more or less completely drained, and 80 to 150 cc. of air injected. A roentgenogram following this often gives important information concerning damage to the brain, subarachnoid obliteration, etc., and should never be omitted. This procedure causes severe headache and vomiting in a conscious patient, but a narcotized one may wake up some hours later and ask when he is to be operated upon. After a week, the air headache disappears and progressive relief of the traumatic sequelæ usually occurs. Penfield[6] speaks of the "specificity" of this procedure and he is not far from correct. Of all the conservative measures designed to relieve the symptoms following head injuries, lumbar insufflation of air holds first place, even though months of suffering may have elapsed.

Summary. The treatment of shock is all-important in the early stages, and that of impaired cerebral circulation in the next. Fifty per cent glucose solution excels for both purposes since it draws fluid from the tissues and especially from the injured brain at the same time that it restores the blood volume. The more prolonged the period of shock with its hypotension and cerebral anoxemia, the more severe will be the cerebral edema following.

The cerebral circulation is controlled through manipulation of the blood volume, a slow pulse being an indication for dehydration, a rapid one for transfusion. Oxygen inhalations are sometimes life-saving; morphine may be fatal through respiratory depression. Operation is justifiable only when definite indications of clot formation with cerebral compression are present.

Prolonged rest with fluid restriction is the surest guarantee against persistent post-traumatic constitution. If it does persist, lumbar insufflation of air is almost a specific.

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THE COMMONER RECTAL AILMENTS *

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IN THE terminal portion of the intestinal tract, that is the rectum and anal canal, are found many and variey forms of pathology. Just why they receive so little attention from the average practitioner is rather hard to understand. Osler once said: "No man can be trusted to make a medical diagnosis who can not interpret a rectal palpation." Diagnoses are more often missed from failure to employ routine methods of examinations than from a lack of knowledge.

The patient usually volunteers the diagnosis of "piles" which the physician too often accepts, and, without examination, prescribes medication, thereby rendering himself as open to criticism as the man who prescribes for a cough without examining the chest. Fear of pain on the part of the patient and lack of perseverance by the physician often prevent him from making the local examination, without which no reliable diagnosis can be made and certainly no suitable treatment employed.

Only the commoner ano-rectal affections will be considered in this brief paper.

Hemorrhoids are estimated to comprise about 30% of all rectal ailments. There are three types of hemorroids: internal, external, and the mixed, or combined externo-internal.

External thrombotic hemorrhoids are the result of strain or traumatism of the engorged inferior hemorroidal veins. Occasionally the clot may form in the lumen of the varicose vein but usually the vein ruptures and clotting occurs in the connective tissue external to it. Ordinarily the patient has a feeling that something has given away and almost immediately there is a sense of local swelling and discomfort, which in a few hours becomes a severe, constant pain, often throbbing in character and aggravated by sitting, pressure or bowel action. Examination reveals beneath the smooth, shiny skin at one side of the anal margin, an ovoid, firm, tender swelling of varying size.

In view of the prolonged treatment usually necessary, the possibility of complications and the suffering entailed, palliation, except in minor cases, is but a poor substitute for operative treatment. The operation is simple and relief is almost immediate. Incision and drainage is done under novocain anesthesia. Most often as soon as the incision is made the clot extrudes, and firm pressure is applied to control oozing and thus prevent the reformation of the clot. The discomfort experienced after the anesthesia wears off is alleviated by a hot Sitz bath.

The majority of cases of external thrombotic hemorrhoids treated by palliative measures result in the cutaneous pile or peri-anal skin tab. This type of pile rarely gives the patient any trouble except the difficulty of keeping the parts clean and at times become irritated, causing discomfort and itching.

An internal hemorrhoid consists of a conglomerate mass of dilated venules, a few unchanged arterioles, a connective tissue stroma which shows chronic inflammatory changes, and a covering of rectal mucosa, which is more or less diseased.

Bleeding and protrusion are the characteristic symptoms of uncomplicated internal hemorrhoids. The congested mucus membrane covering the pile soon becomes granular so that bleeding is commonly the first symptom noted. Protruding is usually a late symptom. At first protrusion is slight, occurring only on defecation and is reduced without difficulty. A frequent recurrence of protrusion tends to relax and dilate the sphincters so that the piles are practically always extuded except when the patient reclines.

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In cases with tonic sphincters sufficient pressure may be caused to produce thrombosis of the pile and edema of the anal orifice, which, unless promptly reduced, may cause ulceration and sloughing of the hemorrhoid.

Pain is not a symptom of simple internal hemorrhoids. Transient smarting or throbbing may occur at defecation but subsides soon after the protrusion has retracted into the rectum. Severe, cutting pain occurring at the time of defecation almost invariably denotes a complicating fissure.

It is a common error to rely upon digitals examination in diagnosing internal hemorrhoids. If either thrombosis or marked connective tissue change has occurred, the small tumors, due to the pathology in this type, may be palpated. Otherwise digital examination yields no reliable information as to the hemorrhoids themselves. The diagnosis is always made by direct inspection through an endoscope, by which means the characteristic pathological changes can be noted. However, digital examination should never be omitted for fear of missing some pathological change higher in the rectum, notably cancer.

The treatment of internal hemorrhoids varies with the stage of their development, the local conditions, and the general condition of the patient.

When constipation is present, mineral oil is always given and the diet regulated. Cathartics, unless very mild, are always contraindicated. Prolapsed hemorrhoids caught in the grasp of the sphincter swell quickly and should always be reduced when first seen. This may be facilitated by first applying cold compresses and then with the well-lubricated finger, push the apex of the mass first on one side and then the other until all of the prolapsing piles are reduced. A suppository is then inserted and a firm compress applied to the rectum. A frequent mistake is made in trying to reduce the externo-internal type of hemorrhoid. The external portion belongs outside and when replaced prolapses almost immediately. In this type, compresses, either hot or cold, give great relief.

The treatment of internal hemorrhoids is divided into two headings, the injection and the operative.

The injection treatment is very valuable in the treatment of selected cases, but this method should not be used when any of the following complications are present: fissure, fistula, hypertrophied papillae, infection, marked fibrotic changes, or when prolapse occurs on the slightest exertion. Should any of the above named conditions complicate the internal hemorrhoid, surgery should be resorted to, at which time the complicating factor as well as the hemorrhoid is treated. External piles should never be injected.

The agents for injection are usually either a 5% phenol solution in olive oil or glycerine, or a 5% to 10% solution of quinine and urea hydrochloride. The hemorrhoid is brought into view with the aid of an anal speculum and enough of the solution to distend moderately the pile which should be injected just above the base. Pain at the time of the insertion of the needle or upon injection of the solution is evidence that the injection is made too near the ano-rectal line. The needle should be withdrawn and inserted higher. Two hemorrhoids are injected at each visit, the intervals between injections being five to seven days. Six to eight injections usually suffice in the average case but often a longer period of treatment is necessary to effect a cure.

When surgery is necessary, the clamp and suture method is preferable because of lessened danger of hemorrhage and slough. The posterior hemorrhoids are always excised first to prevent oozing from obscuring the field.

Fissure or painful ulcer comprises about eight per cent of rectal diseases. The usual exciting cause is the passage of a costive stool. The lesion may be located at any point in the anal ring, but the majority are found at the posterior commissure. Pain is the cardinal symptom; it is usually excruciating and may last for hours after the passage of a hard stool. A dull ache or throbbing pain is likely to be associated with a fissure in the upper part of

the anal canal. As a rule, the acuteness of the pain increases with the nearness of the fissure to the anal margin. The symptoms are so typical that a correct diagnosis can usually be made from the history. However, examination should never be omitted. Almost invariably a "sentinel" pile marks the position of the fissure. Digital or instrumental examination is usually omitted on account of the pain caused unless the base of the fissure is first anesthetized.

The treatment consists of rest and drainage. In the acute fissure application of pure ichthyol often results in cure. Large doses of mineral oil are always given to lubricate and soften the stool. In the chronic fissure, operation gives the most gratifying results. Under local anesthesia, an incision is made from the upper part of the fissure through its base and straight out on the skin for 3 cms. or more. The indurated base is then dissected away, the sphincters partly divided and the wound packed lightly with vaseline gauze. At the end of twenty-four hours mineral oil in liberal doses is begun. Care must be taken that the wound heals from the bottom.

Peri-anal and peri-rectal abscesses are of fairly common occurrence. They differ from abscesses in other parts of the body only in the possibility of fistula formation if neglected A large number of fistulae can be prevented by (1) daily diagnosis; (2) adequate incision, and (3) proper post-operative care of an abscess in this region.

Ischio-rectal abscesses are the most common type in this locality. Usually the point of infection originates at the ano-rectal or pectinate line. The type of invading organism determines the acuteness of onset and the character of pus present. With the onset of abscess formation, there is a sense of discomfort, followed by pain of a dull or throbbing nature. As the abscess approaches the surface the pain becomes more intense and is aggravated by sitting. When fully developed, the buttock is swollen and tense, and definite fluctuation can be detected.

Free incision and drainage, as with abscess elsewhere, is the only satisfactory method of treatment. Daily hot Sitz baths, keeping the parts clean and taking care that the cavity does not heal in too quickly constitute the post-operative care. Before operating, the patient should always be warned that a fistula may result and a second operation may be necessary to affect a cure.

The diagnosis of an ano-rectal fistula is usually easy, but outlining the tract and finding the internal opening, both of which are necessary to effect a cure, is often difficult. In a great number of cases the internal opening can be palpated in the groove between the internal and external sphincters. Probably the easiest method of outlining the course of the tract is to inject an aqueous solution of methylene blue into the external opening. All of the fistulous tract, and its branches, are excised, leaving the wound to heal by granulation. Post-operative treatment is very important. Care is taken to prevent any bridging over of tissues and the wound allowed to heal from the bottom. Failure to carry out this step usually results in the reformation of the fistula.

Probably in no other proctological problem is the course more varied or the treatment more unsatisfactory than in pruritis ani. Among the more common causes are diabetes mellitus, pin worms, fungus infections, infected skin tabs, rectal constipation or any lesion of the bowel with a discharge present. Treatment of this condition is largely governed by the etiological factor which, if it can be found, is always treated in addition to the local condition.

Coffee, tea, and alcohol beverages should be omitted from the diet of all cases, and mineral oil administered if constipation be present. The region affected should be kept dry and clean. Locally a 1% phenol ointment affords temporary relief from itching. Should a fungus infection be the etiological factor, x-ray treatment affords the greatest possibility of cure. In those cases where nothing can be found to account for the symptoms, the subcutaneous injection of Ben-

acol solution will give relief for several months, and in a small number of instances permanent relief will be obtained.

Cancer of the colon and rectum occurs with sufficient frequency to cause one to be always on the lookout for early signs and symptoms of this dread condition. According to Yeomans, eighty per cent of all intestinal malignancies are located in the rectum or sigmoid, and of this number sixty per cent occur in the anal canal or rectum.

The early symptoms are usually vague and only by a thorough and painstaking history and careful physical examination can a correct diagnosis be derived. Any change in the usual bowel habits of an individual, particularly attacks of constipation or diarrhea, with or without the passage of blood; the presence of hemorrhoids in a person of cancer age; or a feeling of fulness in the rectum, should make one suspicious and a proctoscopic examination be made, remembering that only by early diagnosis can successful treatment be carried out.

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ORGANIC LESIONS IN THE NEUROTIC PATIENT *

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IN A PAPER published recently in the WEST VIRGINIA MEDICAL JOURNAL,[1] the writer discussed some of the problems encountered in dealing with the so-called "neurasthenic" patient, pointing out the fact that so many of these patients are nervous because they are reacting to some specific situation or situations and emphasizing the futility of the usual symptomatic therapy while the underlying basis remains uncorrected.

Aside from the above large group of patients with nervous disturbances on a purely functional basis we have encountered two other groups of cases that occur frequently enough to merit a consideration of their problems.

The first group of these cases that we shall discuss is represented by the individual who is admittedly unstable, either on the basis of a congenitally inadequate personality, and who, in addition to his nervous instability, has a definite organic lesion which is not specifically related to the nervous phenomena.

It is the writer's opinion, based upon an adequate series of concrete examples, that the "neurotic" patient does not ordinarily receive the same careful physical examination and laboratory investigation that the non-neurotic patient receives. His various complaints, often multiple, are heard, but frequently no attempt is made to analyze them in terms of the underlying pathological processes, the entire symptom complex being rather loosely regarded as phases of the patient's neurotic phenomena. Because of this mental attitude it not infrequently happens that a patient, admittedly "neurotic," is denied treatment for definite organic lesions when the evidence to establish the existence of such lesions is definite enough, once the physician determines that he will analyze the patient's symptoms and not regard all complaints as "neurotic" just because the patient happens to be an individual who is unstable. A few cases may serve to further ehphasize this point.

CASE I. W. R. A white man in late middle life had been regarded as a "neurasthenic" for a number of years. He complained of headache, dizziness, transient areas of numbness over various parts of the body, vague chest pains, insomania, nervousness, weakness, and digestive disturbances. He had been seen by several phyisicians and the diagnosis had

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always been "neurasthenia" or some similar term. Analysis of this patient's symptoms showed that the digestive symptoms were comparatively recent and that the weakness had not been marked until a few weeks before our examination. He was admitted to the Coal Valley Hospital for study. Gastric analysis showed absence of hydrochloric acid and x-ray examination after barium meal revealed unmistakable evidence of advanced carcinoman of the stomach, a diagnosis that was confirmed at operation.

CASE II. Mrs. H. A middle-aged white woman, pregnant, consulted her physician because of dyspnea. She had numerous other minor complaints. She was told that it was "only natural" that she should be "short winded" and was given only a very superficial examination. A few weeks later she again consulted her physician because of headache, dizziness, continued dyspnea and minor aches and pains. She was told that if she would only forget about herself for a while she would be "all right." Later she returned to the physician's office, this time her chief complaint being dimness of vision but there were other minor complaints, and she was again dismissed without an adequate examination. She consulted him three additional times and was finally given colored glasses. Because of an increasing visual disturbance she consulted our ophthalmologist who found an advanced albuminuric retinitis and referred the patient to my service for diagnostic study and treatment. There was an advanced chronic nephritis with nitrogen retention, a cloud of albumin in the urine, many casts, a diffuse arteriosclerosis, hypertension, and cardiac hypertrophy. There was permanent damage to the retina. The necessary data for correct diagnosis and, therefore, the institution of proper treatment in this case was almost painfully evident and the history was definite enough to make diagnosis quite easy, yet this important organic condition was missed because the patient's complaints, caused by this condition, were obscured by numerous minor "neurotic" complaints and the entire symptom complex was, therefore, erroneously regarded as "neurotic."

CASE III. R. W. A young white man, Spanish, complained for several weeks of various aches and pains, his chief complaint being epigastric pain. He was referred to the hospital for study where he was a trying problem to the nursing staff because of his multiple minor complaints. Clinical examination and x-ray study demonstrated the presence of a moderately advanced active pulmonary tuberculosis.

The three cases related above are representative of the group. Each patient had a definite organic lesion that had gone unrecognized because the physicians concerned had regarded all their complaints as "neurotic." As soon as an attempt was made to analyze these patients' complaints the history of the independent organic condition was found to be present in fairly typical form. It is felt that these patients are entitled to a history and physical examination that will detect these organic conditions so that proper treatment may be instituted as in other patients.

The second group of patients that we wish to discuss has been a fairly large one in our experience. It is represented by the individual who is treated for a functional nervous condition when in reality the nervousness is only a symptom of some underlying organic condition. When the basic condition is corrected the nervousness will quickly subside. A few typical cases will illustrate this statement.

CASE IV. M. H. A middle aged white man came to the Clinic complaining of nervousness, of two years' duration. His physician had seen him frequently during this two-year period and had kept him on "some salty tablets" without affording any appreciable relief. He had lost weight and was quite irritable. He felt strong but was actually weak. Basal metabolism revealed a rate of +35. Thyroidectomy afforded complete relief.

CASE V. An intelligent middle-aged white woman, quite nervous and unstable. She had

been diagnosed as a "neurostheniac" by several reputable physicians. In the course of a complete physical examination a basal metabolism determination was made, having in mind a mild hypothyroidism. The rate was minus 15. Upon thyroid extract in small dosage she made a spectacular recovery and is now well and happy when before, while being treated as a neurosthenic, she was a burden to herself and her family.

CASE VI. An elderly white woman had been treated as a "neurasthenic" for two years. She had never been given a careful diagnostic study. Examination showed the typical finding of pellagra. Upon dietary treatment she made a satisfactory recovery.

CASE VII. A middle-aged white man came to the hospital because of nervousness, inability to concentrate, insomania, and a fairly long list of minor complaints. Blood Wassermann was negative. Spinal puncture was done and a four plus Wassermann was obtained upon the spinal fluid. This patient is now under treatment for his basic condition and his so-called "neurotic" symptoms have largely disappeared.

This list of illustrative cases could be extended indefinitely but it is believed that the cases mentioned will illustrate the point under consideration. It will be noted in the first cases cited that these individuals who were admittedly unstable were suffering from independent major organic conditions which would probably have been recognized in the non-neurotic patient but which were not recognized in these, and other cases not reported, because the physician allowed himself to think of all the patients' complaints as "neurotic" while in reality they had rather typical histories of the organic conditions present *in addition to the neurotic phenomena.* In cases IV to VII, inclusive, we have nervousness and other neurotic phenomena as the cause of the patients' complaints while there is a significant organic basis present as a cause of these symptoms. It is evident that the welfare of these patients, and they are only illustrative of a large group, depends upon an accurate diagnosis and proper therapy which can be arrived at consistently only after a careful history, a thorough physical examination and the employment of the necessary laboratory diagnostic aids.

It is not believed that our experience is particularly different from that of any other physician doing a large amount of referred work. If this is true, there must be a large number of patients in our communities who are being treated as "neurasthenics" when they are really suffering from some organic disease with nervousness as the presenting symptom and there must be others who belong in that great group of persons with a functional neurosis who in addition have definite organic lesions that require attention.

It is my impression that a careful history with an effort to evaluate symptoms, without undue reference to the presenting "neurotic" symptoms supplemented by an adequate physical and laboratory examination will remove many of these so-called "neurasthenic" patients from that group and place them with our other patients who are being treated for definite organic disease.

In closing this brief paper I want to stress the necessity of looking beyond the patient's superficial story of his illness and seeking for some more obscure and perhaps serious condition of which the patient is not aware, or which he is unable to describe in a manner to focus our attention upon this underlying condition unless we are alert and recognize the relationship ourselves on the basis of his or her symptoms. After all, there is no reason why a patient may not belong to the so-called "neurasthenic" group and still have definite organic disease, but there should be every reason why we, as physicians, should not allow ourselves to be deceived by the neurotic symptoms and miss a major pathological condition.

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ETIOLOGY AND PREVENTION OF HEART DISEASE*

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DURING the past few decades the span of life has been lengthened by ten or fifteen years, due particularly to the prevention and control of communicable diseases; whereas, the morbidity and mortality from heart disease has greatly increased. It is true that more persons are living to the fourth and fifth decades, when degenerative cardiovascular changes have developed.

It is evident, then, that the successful method of preventing or postponing death from heart disease is to prevent the occurrence, lessen the severity, or shorten the duration of those conditions leading to heart disease. Speaking generally, then, this means the prevention, early recognition and proper treatment of the three great causes of heart disease: rheumatic infection, syphilis, and arteriosclerosis. To these should be added the rapidly increasing menace of modern life, so-called essential hypertension.

A cardiac diagnosis is incomplete, and the problem of prevention is vague, without a thorough understanding of the etiological factors of heart disease, and the sincere attempt to arrive at an etiological diagnosis in every case. Physicians should be familiar with the classification and criteria for diagnosis of heart disease as given by the American Heart Association. A complete diagnosis should include the etiology, structural changes in the heart, type of disturbance of physiological function, and degree of functional capacity.

Heredity seems to be an important etiological factor in cardiovascular diseases, and, in some persons, there seems to be a cardiovascular instability, reacting unusually to life.

Rheumatic fever, which includes polyarthritis, chorea, growing pains, tonsillitis, and pharyngitis, is responsible for the majority of damaged hearts. Rheumatic infection usually attacks children or young adults, and the causative agent is probably a streptococcus. Rheumatic heart disease in children is closely associated with respiratory infections, and exacerbations tend to recur. Tonsillectomy does not seem to be a preventive, as in the majority of cases, the tonsils have been removed. Failure to gain weight, chorea, growing pains, rheumatic nodules or rash, rapid pulse, leucocytosis or prolonged sedimentation time, are evidences of persistence of active rheumatic infection. The importance of respiratory infections in childhood, their prevention and treatment, are not fully appreciated. The treatment of rheumatic infection should be as thorough and prolonged as that of tuberculosis.

Other less common bacterial cardiac infections occur, as streptococcus viridans, etc. The toxin of diphtheria affects the myocardium. It is now thought that the long period of disability and exhaustion that often follows grippe is possibly due to the action on the myocardium of a specific virus or secondary streptococcus infection.

Syphilis, the second great cause of heart disease, shows a distinct disposition to attack the aorta, causing dilitation or aneurysm of the aorta, insufficiency of the aortic valve, and narrowing of the mouths of the coronary arteries. Syphilitic aortitis is usually seen in persons between the ages of thirty and fifty, or from ten to thirty years after the initial infection. The adequate treatment of syphilis in any stage of the disease is important for the prevention and arrest of cardiac lesions.

Probably the most numerous victims of heart disease are those with crippled hearts due to systemic diseases resulting in arteriosclerosis, with or without hypertension. These cases are usually persons over forty-five years of age. General arteriosclerosis may not be

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evident. The presenting symptoms may be myocardial insufficiency, anginal syndrome, arythmia, paroxysmal tachycardia or dyspnea. There is sclerosis of the coronary arteries, aorta and myocardium.

Chronic focal infection is probably a predominant factor in the causation of degenerative changes in the cardiovascular system, and the reaction of the vascular system is variable. We are familiar with cases of hypotension or hypertension that resume a normal blood-pressure level after removal of foci of infection, and on the other hand, we are often disappointed.

Essential hypertension causes cardiac hypertrophy, dilatation, and decompensation. The largest hearts, though, are seen in benign hypertension. Essential hypertension often occurs in young individuals, and the condition is considered an abnormal reaction to external influences, on the basis of a neurogenic factor causing functional arteriolar hypertonus and constriction. There may be central stimulation of the vasomotor center, or peripheral stimulation of the muscle cells in the arterioles. In this connection, the biochemical work of Bancroft on cell coagulability is very interesting. He has shown that bromides, iodides, and other substances have a peptonizing effect in lessening cell coagulability. Recently an authority has stated there is hypertrophy of all the coats of the arterioles in essential hypertension.

Other conditions and diseases causing abnormal cardiac function or damage are hyperthyroidism, any acute infection, mineral and vegetable poisons, uremia, chronic nephritis, diabetes, and gout.

Cardiac hypertrophy in an athlete is considered evidence of added strain to an already damaged heart from rheumatism or other cause, and tends to degenerate quicker than a gradually developing hypertrophy. Athletic activity does not cause enlargement of a normal heart.

We are familiar with the fact that emotions greatly influence bodily functions controlled by the vegetative nervous system. Patients often present disorders of the heart whose only determining cause is some emotional disturbance, and this psychic disturbance may have been caused by some injudicious statement by a physician or medical examiner. The psychic reaction to doubt is often most violent and profound when it concerns the integrity of the heart. On the other hand, though, it is not to be supposed that organic heart disease occurs only in persons of stable minds and nervous systems. Anxiety and worry often aggravates the existing cardiac damage and may precipitate serious cardiac symptoms. Violent psychic stimuli can cause more harm than physical over-exertion.

It is a great responsibility to advise a patient he has heart disease, or to assure him otherwise, and a diagnostic conclusion should be reached only after a careful history, physical and special examinations. In treating the psychic aspects of cardiac disorders the physician has to use all his accumulated knowledge and sympathetic insight into the obscure and tangled processes of the human mind.

INFANT CLOTHES

The infant has found a champion in the U. S. Bureau of Home Economics. Believing that the clothing of infancy should be designed to obtain free activity for all parts of the body, as well as warmth, this bureau made an experimental study and developed several designs suitable for the baby's convenience and comfort. Patterns cut on the bias are popular because they allow more fulness in the skirt than in the top of the garment. Information regarding children's dress and a list of commercial patterns of new styles in infant garments may be obtained by writing to the Bureau of Home Economics, Department of Agriculture, Washington, D. C., according to information received from Margaret Smith, who writes on "New Clothes for Baby" in the August *Hygeia*.

CHANGES IN REFRACTION IN DIABETES MELLITUS *

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IT IS THE PURPOSE of this paper to call attention to the frequency of an ocular complication of diabetes which has received so little attention in the literature that one would be apt to regard it rather as an academic problem than as a matter of importance in everyday practice. The complication in question is the marked amblyopia which occurs at times in the diabetic, the term amblyopia being used in its true meaning of dimness of vision without organic lesion of the eye. The question of frequency is stressed that it may be clearly understood that the theories presented below have been often discussed in ophthalmological literature, though the incidence of the condition as a common clincial entity does not seem to have received sufficient notice.

The cause of this amblyopia has long been known to be due to sudden marked changes in the refraction of the eye. Reports of the condition appearing in the journals leave the impression of rarity. In America Roberts[1] in 1923 reported five cases and Dykman[2] in 1926 presented four. The reviews of the ocular complications of diabetes which appear in the literature merely refer to the existence of these changes and none that I have been able to find discuss either the frequency or the type of the change. Fuchs' extremely comprehensive text-book gives the subject little notice and most of the smaller works dismiss it in a line. Up to the year 1925 forty-five cases had been recorded and were collected and discussed in a paper to be referred to later.

In view of this apparent rarity it is surprising that an investigation of about fifty diabetics has afforded the opportunity for studying three definite cases of the condition in review. A number of these patients complained of occasional blurring of vision, usually in the morning, without any evidence of refractive change and in the absence of lesions in the fundi or media. The disturbance of vision was, however, too slight and of too short duration to be of any importance. Two of them gave very suggestive histories but developed no symptoms while under observation. In one case of diabetic coma ophthalmoscopic examination showed a myopia of five diopters but the death of the patient presented further study. It was impossible to find whether this error had been permanent. The findings, however, are interesting in illustration of the theory presented below of the origin of the refractive errors which we are discussing. The three cases which permitted more or less complete study were as follows:

CASE NO. 1. K. R., white, female, age 23, was first admitted as a diabetic on June 20. She was discharged on July 3. One week after admission to the hospital she complained that since admission her vision had become increasingly blurred. There was no history of any previous impairment of visual acuity. Media and fundi showed no deviation from normal appearances. Blood sugar estimations as below:

June 21, 235 mgs. %
June 26, 209 mgs. %
June 28, 194 mgs. %
June 30, 35 mgs. % (during insulin reaction)

On June 28 visual acuity was 20/100 improving after much concentration to 20/40. Corneal astigmatism as measured with the ophthalmometer was within normal limits. Retinoscopic examination after administration of homatropine and cocaine showed a hyperopia of four D, confirmed by correction with

* Presented before the Fayette County Medical Society and submitted for publication in November 1931

trial lenses, which gave V. 20/20 O.U. Unfortunately, no further opportunity was afforded for examination until seven weeks later when, unassisted, visual acuity was increased to 20/15 O.U. Blood sugar at this time was 130 mgs. % and had been kept within normal limits since her discharge from the hospital at the time of her previous examination. The blurring of vision had cleared up shortly after discharge and had not recurred.

CASE No. 2. H. W., student, age 19, white, was admitted to the hospital on October 11. On the day of admission blood sugar amounted to 307 mgs. %. Routine diabetic and insulin treatment was instituted. There had been no previous treatment for diabetes and the patient had been unaware of his condition. He complained of marked blurring of vision which had been present for several days. He had always been near sighted and had always worn glasses for the correction of this disability. His glasses had to be increased in strength each year. He now noticed that he could see better without his glasses, though they had always been indispensable previous to his illness. As the blood sugar was brought under control he found that his visual acuity with the old correction improved until on the day of discharge this correction was as satisfactory as before. During this time frequent examinations revealed no gross changes in the media except for the fact that the fundi had a peculiar shimmering appearance as though viewed through moving water. He was refracted as often as his condition would permit, though extreme weakness prevented the regular examinations which were desirable. The refractive changes observed at these irregular periods and their relation to the amount of blood sugar may be observed from the following figures:

Blood sugar: October 11, 307 mgs. %
October 13, 241 mgs. %
October 23, 130 mgs. %
November 4, 97 mgs. %
November 7, 102 mgs. %

Ophthalmological Examinations.—October 17, V.O.D. 20/30 O.S. 20/20. Patient too weak to coöperate in refraction. Retinoscopic examination at one metrecycloplegia with homatropine and cocaine, O.D. + 25/0 O.S. + 50/ + 50.

October 26, V.O.D. 20/200, with —3 sphere with —1.75 sphere 20/15. O.S. with —1.25 sphere 20/15. Acuity of vision changed from moment to moment.

October 26, V.O.D. 20/200 with —3 sphere 20/15. O.S. 10/200, with —2.75 sphere 20/15.

November 12, V.O.D. 5/200 with —4 (original correction) 20/15. O.S. 5/200 with —4 (original correction 20/15.

We did not have an opportunity of keeping this patient under observation after his discharge from the hospital. Six months later he wrote that he was having difficulty in keeping the diabetes under control. Any dietary indiscretion or inattention to the details of routine treatment is always followed by blurring of vision. "My eyes," he writes, "continue to be a very sensitive barometer of my general condition."

CASE No. 3. C. T., age 56, white, female, was admitted to the hospital with a complaint of loss of weight, polydypsia, and polyuria. The fasting blood sugar on date of admission was 235.4 mgs. %. Nine days after the institution of rigid diabetic diet and insulin therapy the blood sugar had fallen to 181 mgs. %. The patient now complained of defective vision. There was no organic lesion noted in the fundus. Roughly 1½ diopters of hyperopia was present and with this correction acuity was 20/20. The blurring of vision subsided a few days later and the patient was discharged. Six months later, during which time the diabetes had been kept under strict control by the patient's attention to dietary and insulin regimen, she stated that there had been no return of the visual symptoms. With the correction which during the presence of blurring, gave a visual acuity of 20/20, vision was now 20/200. Without glasses vision was 20/30 which, with a small correction for astigmatism, improved to 20/15. The latter error, as tested at two distinct inter-

vals during the nine months following the attack of blurring noted above, was permanent and unassociated with the diabetic condition.

All these cases show the same changes, a hyperopia which develops at the patient comes under treatment and the blood sugar falls. All of them are typical of the form of refractive change which seems to be most common, i.e., a hyperopia which develops as the patient comes under treatment with a return to the pre-existing refractive state when the diabetes is kept under permanent control. Case No. 2 is complicated by the fact that there was a pre-existing myopia which was neutralized by the development of the opposite condition. The change, however, is the same. With the subsidence of the hyperglycemia the eyes return to their previous state, which in this case was a high myopia.

It has already been mentioned that up to the year 1925 forty-five cases of these sudden changes in refraction in the diabetic had been observed. These cases were collected and the types of change classified by Duke Elder[3] of London in that year. The types of change are classified under four headings: a. myopia, b. hyperopia, c. a combination of the two previous types, d. anomalous variations. Practically all the cases recorded in the last few years are of the hyperopic type and occur with a falling blood sugar. The myopias, which seem to be very infrequent in comparison, are associated with a persistently high blood sugar. Duke Elder's paper is instructive, not only in its discussion of the types of change observed, but also in the fact that it presents a theory of their origin which seems to have been generally accepted. He considers the possibility of the variations having their origin either in a disturbance of the ocular musculature or in a physical change in the media. The rôle of the ocular musculature is disposed of on the ground that a majority of the cases observed occurred in elderly people in whom the range of accommodation, owing to weakness of the ciliary muscle, is very slight, while a number have shown a change much greater than the normal range of accommodation would permit. Some of the changes might be due to a paresis of the ciliary muscle, though the range of accommodation has usually been found to be normal. There are many plausible theories to locate the changes in the refractive media of the eye. A deleterious effect of the products of a disordered metabolism might be presumed to account for an alteration in refraction by a change in the length of the eye. The eye actually shrinks in advanced diabetes but the shortening in this case would involve the focussing of rays of light behind the retina with the production of hyperopia, a condition which, as already noted, occurs with a fall in blood sugar. It is a natural assumption, which suggests itself to everyone who considers this subject, that a variation in the refractive index of the vitreous would account for the observed changes. Experiment has proved, however, that the concentration of sugar necessary to produce even a slight change in the index of the vitreous is immensely higher than could ever occur "in vivo." There is, however, abundant evidence, both theoretical and experimental, that the seat of the change is in the crystalline lens. In the first place, there is a greater frequency of the condition in elderly people in whom the lens, a normally resistant structure, is unstable and more liable to capitulate to the action of external forces. The experimental, if accidental, proof is afforded by Elschnig's report of a diabetic who had had a unilateral extraction of a senile cataract. A change in refraction occurred in the opposite eye, the aphakic eye retaining its previous refraction. Locating the site of the change in the lens, Duke Elder considers that there are alterations in its size as a result of variations in the osmotic pressure between the lens and the surrounding tissue fluids. Owing to the decreased salt content of the blood and tissue fluids in hyperglycemia the lens is bathed in a fluid of tension lower than its own molecular state with a consequent flow of fluid in its direction. The consequent swelling of the lens gives rise to a myopia. With a fall in blood sugar the ocular fluid flows from the

lens to the blood with a consequent flattening of the lens and the production of a hyperopia.

This theory fits the observed facts, namely, that a hyperopic change occurs while the blood sugar is decreasing, while the opposite condition is found when the blood sugar remains high. Duke Elder stated in the paper mentioned that with the increasing use of insulin there would be a great increase in the number of these cases observed, owing no doubt to the more sudden changes in the water balance of the body and the more vigorous assaults on the crystalline lens. The fact that a limited clinical experience can offer a relatively considerable number of subjects of this disorder is abundant evidence that this forecast has been substantiated.

REFERENCES

[1] Roberts. American Journal of Ophthalmology. 1923. Vol. VI. No. 4.

[2] Dykman. American Journal of Ophthalmology. 1926. P. 825.

[3] Duke Elder. British Journal Ophthalmology. 1925. P. 167.

LINCOLN AT GETTYSBURG

Lincoln's mental depression—that morbidity that plagued him nearly all his life—finally was thrown off in his later years through a series of circumstances. Dr. Milton H. Shutes, who has made a fascinating study of Lincolniana in the field of the doctors and medicine, writes of the last years of Lincoln's life, in *Hygeia:*

"The death of his son William was vitally personal, and the Gettysburg event was vitally patriotic in its poignancy. May we not correctly affirm now that the spiritual uplift received through these two experiences, added to the remedial submersion of his ego in his all-consuming purpose to save the Union, was more than adequate to cure—symptomatically at least—his psychoneurosis?"

Lincoln spent much time and thought in preparing his Gettysburg address.

CASE REPORTS

COLLOID CANCER

By ALBERT G. RUTHERFORD, M.D., F.A.C.S.
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This is a report of a patient who had a colloid cancer of the pyloric end of the stomach, which was removed by Billorth No. 2 operation under spinal anesthesia. The diagnosis of colloid cancer was made from a miscroscopical study of a slide from a piece of tissue removed at a previous operation. At the time of the biopsy a gastro-enterostomy was performed. The patient made an uneventful recovery and returned about six weeks later for a partial gastrectomy. A detailed report of the case is as follows:

This patient was first admitted to the hospital on January 8, 1931. History: White male, age 35 years, states for the past month he has had several attacks of severe cramp-like pains in upper abdomen with a constant dull pain in same region. He described the pain as being a pulling down and cutting character. He has had a dull, uneasy feeling over the abdomen for the past two years, but has not had enough pain to seek relief until the present attack. He had no nausea until one week ago. Since then he has vomited frequently, but says there has been no blood in the vomitus. He has taken baking soda for the last six months in large quantities, and says it is the only thing he has found to give him relief.

His diet has consisted chiefly of milk and bread. Taking food seemed to relieve the pain when it first began, but now he says it increases the gastric distress. He has lost twenty-five pounds in weight during the past two months. He has no cough or respiratory complaint. Bowels move regularly and stools are well formed. He has not noticed any blood or dark material in stools.

Examination.—White male, very thin and looks somewhat anemic. Skin is free from

rash. Chest is symmetrical. No râles or areas of consolidation found. Heart is of normal size. Muscle tone is good. No murmurs or irregularities. Pulse of good volume and regular. Examination of abdomen revealed tenderness over the right upper quadrant and over gastric region. There is slight rigidity of the rectus muscle. No masses made out. No masses, tenderness or rigidity of the lower abdomen. No glandular enlargement of the body. Urinalysis negative. R. B. C. 4,200,000. Leukocyte count 11,000. Hemoglobin 85% plus. Gastric analysis showed a normal free HCL but a slight increase in the combined acids.

Diagnosis.—Pyloric ulcer (Malignant?).

Treatment.—Operative findings: Stomach of normal size and in normal position. There were no adhesions about stomach or duodenum. There was some thickening of the wall around the pyloric opening which had a firm, hard feeling and had the appearance of a fibrous new growth. There was no dilation of the vessels of the stomach or mesentary and no palpable lymphatics could be found. Operation: 1-26-32 — Gastrojejunostomy. The upper portion of the jejunum was attached to the greater curvature of the stomach, leaving an opening 2½ inches in length. The mesentary was sutured around the closed opening. Openings into the stomach and jejunum were made with electric cautery. A biopsy was made of the dense tissue around the pylorus.

Microscopic report showed colloid cancer.

Findings.—The gross in this case is like colloid cancer and the microscopic suggests colloid cancer. This is a low type malignancy.

Progress Notes.—Day following operation patient reported a very comfortable night. Complains of soreness over incision.

Third day after operation patient had a normal bowel movement.

Sixth day, patient feeling fine and making a very satisfactory recovery. He complains of no pain and says he feels better than he has for the past month.

Sutures were removed on the tenth day. Wound was well healed with no drainage.

His post-operative temperature reached 99.8 on the second day, but remained normal throughout his recovery afterward.

Patient was allowed to sit up on the fifteenth day.

Walked on the sixteenth day.

Was discharged from the hospital on the eighteenth day following operation. He was instructed to return to the hospital in six weeks for a partial gastrectomy.

Discharged February 13, 1931.

Patient returned on March 12, 1931. He states he has been feeling well since operation. Says he has had no pain and has gained about twenty pounds. His bowels move well. His appetite is good. He has had no nausea. Says he is tender to pressure over upper abdomen and believes he can feel a mass, which appears to him to be increasing in size.

Examination.—Patient looks well. Abdomen shows left rectus scar of upper abdomen well healed. A distinct mass can be felt over gastric region and extending well into right upper quadrant. Mass is freely movable and very tender to pressure. Liver and spleen not felt. No masses, tenderness or distention of lower abdomen. Lower extremities negative. Urinalysis negative. R. B. C. 4,400,000. Hemoglobin 85% plus. Leukocyte count 10,000.

Diagnosis.—Colloid cancer of pylorus.

Operative Findings.—Multiple adhesions of gastric omentum to peritoneum. Mass size of orange found at pylorus. Mass feels firm, has cauliflower appearance and is densely adherent to mesentary and transverse colon. Gastrojejunostomy well healed and opening admits two fingers well.

Operation.—Billroth No. 2. Complete plyorectomy and partial gastrectomy. Distal one-third of stomach removed with cautery. Mass excised from duodenum with cautery and ends closed with catgut and silk. Two penrose drains inserted. 3-16-31. Spinal anesthesia. The operation lasted for one hour and fifty minutes, and the patient complained

of some pain when incision was being closed. He left the operating room in very mild shock.

Eight hundred cc. of glucose and saline were given immediately and twice each day following for the next four days. He developed a cold with a frequent cough and expectoration of much mucous on the second day following operation. His chest was massaged with camphorated oil and mustard plasters applied every four hours for three days. This condition cleared up promptly. On the third day following operation he was allowed 15 cc. of warm water every hour by mouth. He retained this well.

One drain was removed on the fourth day. Water was increased to 30 cc. every hour and the second drain removed on the fifth day. He was allowed his 30 cc. of water as usual, 100 cc. of weak tea and four tablespoonsful of plain Jello. He retained this well and showed no drainage from incision. The following day, (the sixth day,) he was given 1 oz. of gruel with milk and ½ spoonful of sugar, 100 cc. of plain Jello and 30 cc. of warm water every hour. The gruel and plain Jello were given night and morning.

The seventh day his intake was the same except water was increased to 2 oz. hourly and he was given 150 cc. of cream soup and 150 cc. of gruel twice daily. On the eighth day his diet was liberal. He took 3 oz. of water every hour and 200 cc. of gruel, custard or half milk and cream every two hours. He was free of pain and had no nausea or vomiting. His bowels had moved well following a saline enema every other day and his incision was healing well with no drainage. On the ninth day he was given in addition to his regular diet one soft poached egg and one-half slice of toast in milk twice daily. The following day the skin clamps were removed and the incision began to drain freely, a yellowish, watery discharge with no odor.

All intake by mouth was immediately discontinued at this time, (tenth day following operation,) and intravenous glucose in saline started, 800 cc. twice daily and continued for two days. The drainage continued and did not decrease in amount although the color became clear. The skin area about the healing incision was becoming excoriated and very tender. It was evident that a leak had developed somewhere along the sutured end of the stomach.

At this time, on the twelfth day following the partial gastrectomy, a jejunostomy was done and a small catheter inserted. The excoriated area over the abdominal incision was saturated with a dressing of beef tea composed of 3% dextrose beef broth made up with .1 normal hydrochloric acid. This dressing was changed every three hours and further excoriation was prevented. Food consisting of 6 oz. of warm saline and 1 oz. of Karo syrup, Peptonized milk, and beef tea made by dissolving beef boullion cubes in .1 normal hydrochloric acid and peptonizing at body temperature for one hour, were given alternately every two hours through the enerostomy tube.

The amount of water, milk and beef tea was gradually increased daily until he was taking 12 oz. every two hours without discomfort. During this time it was necessary to give an occasional saline enema. During the entire jejunostomy feeding he was given 1000 cc. of saline with 100 cc. of 50% glucose intravenously. His pulse and temperature remained normal throughout, and at no time did he complain of pain or show any sign of dehydration, but instead, he appeared to improve in weight and general feeling.

On the seventh day following the jejunostomy, the patient became nauseated and vomited a large amount of thin, yellow, fluid with offensive odor. Jejunum feedings were discontinued for 24 hours, and a high enema given which promptly brought relief.

The following day his regular feedings were continued through the enerostomy tube with the administration of 4 oz. of tomato and orange juice twice daily and 1 oz. of mineral oil. At this time his average daily intake of fluids was 3,350 cc., and his average daily output, including drainage from ab-

dominal incision was 2,130 cc. During this time he was allowed a saline mouth wash every three hours, but was not allowed any fluids to be taken by mouth.

On the sixteenth day following jejunostomy the tube became so loose that it could not be held in place and fluids returned from around it when injected. The tube was removed and a beef tea dressing applied tightly over jejunal opening. A nutritive Murphy drip was started, preceded by a cleansing saline enema. The nutritive Murphy drip consisted of 400 cc. of milk and one egg, given every four hours. During this period he continued to get 1000 cc. of normal saline and 100 cc. of 50% glucose intravenously. The incision through which the partial gastrectomy was done, had healed well at this time except for a chronic sinus size of a lead pencil. This was draining freely, the discharge being of a yellow, watery character. He was treated in the above manner for seven days, taking only nutritive enemas and glucose.

The jejunostomy opening ceased draining, so water was given by mouth, ½ oz. every three hours. Three days later he was allowed, in addition to his water, tomato juice and chicken broth every two hours, drams three of each. The drainage from the abdominal incision persisted, but the amount of drainage was far less than the amount of intake, although the exact figures can not be given as there was no way the amount of drainage could be measured. The sinus was growing definitely smaller all the time, and was kept packed with sterile gauze. The jejunostomy opening was draining a very small amount of colorless fluid but was still red and inflamed looking.

On May 8th, which was fifty-three days after major operation or partial gastrectomy, and forty-one days after jejunostomy, the patient was allowed to sit up in a cushioned chair for his first time. At this time he was taking orange juice, tomato juice, milk toast and cod liver oil by mouth. This given in more than 3 oz. quantities every four hours caused profuse drainage, so we continued to give him his nutritive Murphy drip of milk and egg three times daily, 500 cc. at a feeding. He absorbed this exceptionally well.

His rectal feedings were discontinued on May 11th, and his diet increased.

On May 15th he was rolled out on the porch for sun baths, beginning with fifteen minutes daily. Ten days later he was allowed to walk around. The drainage was very slight at this time and it was not necessary to keep the sinus packed.

The jejunostomy opening had healed well and on June 2nd he was discharged and returned daily for dressings until June 15th. Drainage was so slight at this time that he returned every third day. His bowels moved well most of the time, but he had to have an enema about once weekly.

On June 30th the sinus had healed but was very red over skin surface immediately above sinus. This remained sore and red for one week and ruptured. Drainage was profuse for five days and contained much solid matter or gastric contents. He was advised to decrease diet to half the usual amount. His diet at this time consisted of fruits, toast, eggs, mashed potatoes, chicken (broiled) and custards with 1 qt. sweet milk daily. The drainage gradually decreased as before and was completely stopped on July 25th.

At this time the old scar over the site of the jejunostomy became red and swollen and in three days it ruptured and drained a small amount of yellowish fluid, but no solid matter. This was dressed daily and drainage ceased on August 10th. His general condition seemed good and he had gained sufficient strength to get about well, even go up and down stairs. His abdomen had healed completely and no dressings were applied after August 20th.

He returned again on August 30th for observation. At this time he was feeling fine, said he was gaining strength daily and was eating a general diet with the exception of fried foods.

Patient was admitted again on September 14th. Examination revealed patient to be

very thin and emaciated. Chest was free from râles but there was an area of harsh breathing over base of right lung. Heart was regular. Rate accelerated. No murmurs present. Abdomen showed no distention. Gastrectomy incision was well healed but there was a free drainage of thick, semi-solid, yellow material, apparently contents from small bowel, draining from site of the previous jejunostomy incision. The entire upper abdomen was tender to pressure but no masses could be felt. There was an increased area of dullness over liver, but liver could not be palpated. No rigidity of abdominal wall. Leukocyte count 22,500. Urinalysis negative. Patient stated his bowels had not moved for two days although he had taken very little food or water for the past forty-eight hours, due to the increased pain on taking anything into stomach. He was given a high saline enema with expulsion of much solid fecal matter and some gas. His drainage did not cease but continued to grow worse. The pain over upper abdomen and lower chest became more severe. Mustard plasters, camphorated oil and hot water bags were given, which caused some relief but not complete freedom. His general condition gradually grew weaker and his life was prolonged ten days after admission by daily intravenous injections of glucose and saline, 1000 cc.

He expired on September 24, 1931. An autopsy revealed the following: An abscess size of double fist was found extending from cecum to liver. Abscess contained a large amount of free, foul pus. Gastro-jejunostomy was in good condition. No masses found about stomach or mesentery. There was many dense adhesions over stomach, liver and transverse colon. Spleen was not enlarged. Cecum filled with hard fecal concretions. Appendix negative. Liver appeared slightly hardened but not enlarged. Gall bladder negative and emptied well.

Tissue was removed from all of the abdominal organs and the microscopic findings are as follows:

Section from the stomach shows a large area of colloid cancer beneath the mucosa.

The section from the jejunum is negative for colloid carcinoma.

The section from the liver shows fatty degeneration. This may be post-mortem. No colloid carcinoma.

The section from the kidney shows dilatation of the tubules with degeneration of tubular epithelium. Hyalinization of some of the glomeruli. Hemorrhage. All sclerotic changes. No colloid cancer present.

The section from the spleen shows marked fibrosis with old hemorrhage. No metastasis.

Diagnosis.— Abdomen—stomach—colloid cancer.

No metastasis to liver, spleen, kidney or jejunum.

SOCIAL INSURANCE UNDERMINES NATIONAL CHARACTER *

By EDWARD H. OCHSNER

Parasitism is today the corroding canker of modern civilization and anything which favors its growth and dissemination should be unequivocally condemned and most vigorously opposed.

The proponents of compulsory health insurance or national insurance, as it is called in England, reiterate again and again that these and the dole are totally different. In name and administration, yes; in effect, no. They both encourage people to want something for nothing or much for little which, in effect, makes parasites out of them. Almost endless illustrations supporting the statement that compulsory health insurance and the dole are alike in effect could be produced but one will have to suffice. Liek, in his book, recounts the following experience he had while a Krankenkasse physician in Germany. A middle-aged man came to him for an examination with the view of securing sick benefit. Liek examined the patient carefully; could find nothing the matter with him; in fact, found him an unusually well-developed and robust individual. He told the man the facts and elicted the following story. The man told Dr. Liek that he was the only man in his village that did not get some kind of a government stipend, sick benefit or

* This is the eighth of a series of articles on Social Insurance by Dr. Ochsner.

dole or pension and that everybody was ridiculing him because of this.

No one who is at all familiar with Bernard W. Shaw's writings will ever accuse him of being in favor of the present economic system in England. He has the following to say about the dole:—"The Labor Party has just twisted conditions all around. They taxed people who live on unearned income, and create their own leisured class—people who live on the dole. The dole is not much but if you have four or five in one family living on dole you have a hostel of leisured people living very well. That must cease."

The whole social insurance scheme is based on the ethically indefensible theory that individuals are entitled to things that they have not earned and on the politically unsound doctrine that society owes every citizen a comfortable living whether or not he repays society by doing his fair share of the world's work. Under compulsory health insurance the individual who works only half-time is entitled to just as much free medical service and is likely to get much more in sickness benefits than he who works full time. Not only this; it actually encourages immorality and riotous living as the following personal experience well illustrates. As a young man I worked two seasons in a lumber camp. The camp in which I lived comprised between thirty-two and forty men. Of this number only one did not use intoxicating liquor; only two did not use tobacco; and half of the men spent their hard-earned wages either at the saloons in the nearby town or went regularly to the Island or did both. Those who are familiar with the islands of the upper Mississippi River need no explanation as to why they went there. I wonder how health insurance, insuring these men for loss of time and providing free medical care for them, would have prevented their doing the very things which were the cause of much of their sickness. For my part, I believe that a larger per cent of them would have gone to the Island if they had felt that they would be protected against loss of time and that they would receive free medical care if they became sick. Health insurance would actually have increased not only sickness but immorality as well in this camp.

A recent survey of five thousand students at the University of Minnesota found only ten or two per thousand with positive Wassermans. Careful surveys in various parts of the country indicate that about three per cent or thirty per thousand of the general population of the United States is syphilitic. A Wasserman examination of three thousand prisoners in the southern Illinois penitentiary revealed the fact that three in ten or three hundred per thousand were syphilitic. This same ratio undoubtedly pertains to the class most criminals come from and raises the average in the general population.

It is a well-known fact that alcoholics and those suffering from venereal diseases are much more liable to loss of time from sickness than are those not so affected. What right has any just government to take of the earnings of the two first groups without their consent and give them to the third group? A just and humane government protects the weak from oppression and exploitation by the strong and unscrupulous; but a just and wise government does not penalize the strong, industrious, clean-living and thrifty and favor the weak, lazy, shiftless and immoral. Giving the weak, lazy, and shiftless undue advantage over the strong, industrious, and thrifty actually penalizes and handicaps the latter, interferes with the law "of the survival of the fittest," and must eventually lead to race degeneracy. If the white race persists in this course long enough, the "yellow peril," so often glibly and jokingly mentioned, may become a real menace to western civilization.

All independent writers on the subject state, and even the proponents of compulsory health insurance have to admit that it has tremendously increased occupational neuroses, and that is just what was to be expected and was expected by those who know human nature and can see just a little further than the ends of their noses.

The following quotation from a paper by William H. Hicks is pertinent: "In accident cases, where the question of compensation is involved, conditioned reflexes are sometimes created by the patients' environment that not only retard recovery but instigate additional symptoms; or may lay the foundation for successful malingering."

One of the worst features of compulsory health insurance is that if continued long enough it will crush out of character the three capital I's—Independence, Industry, and Integrity. Such schemes are as Guglielmo Ferrero, the eminent Italian historian rightly says, "artificial," and "While they tide over trifling evils of the moment, they lay up for the future troubles and difficulties and dangers of infinitely greater gravity."

(To be continued.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

Old Tuberculin discovered by Robert Koch in 1890 is a mixture of the bouillon and all metabolic products of the tubercle bacilli grown on it. Greater precision of the tuberculin test is highly desirable and for this a more specific and less variable testing substance is necessary. The chemistry of the tubercle bacillus has for some years been studied by investigators selected by the Research Committee of the National Teberculosis Association, of which William Charles White is chairman. One of its results has been the siolation of a protein, which is designated as MA100. This substance causes the typical skin reaction in persons infected with tubercle bacilli. To test the reliability and practicability of it a study was carried on coöperatively by a number of workers. An analysis of the results is reported by Mariette and Fenger in the March 1932, *American Review of Tuberculosis.*

A NEW TUBERCULIN

MA100 is obtained from different types of tubercle bacilli and the timothy-grass bacilli. The protein is identical with the original tuberculoprotein isolated by Seibert. The bacilli are grown on Long's medium, a synthetic medium of fixed-standard composition, which is protein-free before culture. After growth the bacilli are removed by filtration and the protein of the medium is precipitated at a given isoelectric point by glacial acetic acid. Thus the identical substances are constantly brought down and these are not subjected to any denaturing process with heat or chemicals. The diluent was normal saline solution. Thus the testing substances contain no phenol or glycerine.

Four types of avid-fast bacilli were used, namely, the human, the bovine, and avian types of tubercle bacillus and the timothy-grass bacillus. The corresponding proteins obtained have been designated as MA100 Human, MA100 Bovine, MA100 Avian, and MA100 Timothy. The origin and virulence of each of the strains of bacilli from which the protein substances were derived, is known. The O. T. used for comparison also is of known derivation and sensitivity. Therefore, the reactions obtained can be safely compared and checked.

Old Tuberculin, as it is now marketed, is standardized on the basis of the minimum dose required to kill a tuberculous guinea pig. It has recently been shown, however, that O. T. contains a polysaccharide which is equally as lethal for tuberculous guinea pigs as is the acid-fast bacillary protein, but it produces no reaction when injected into the skin of tuberculous animals. Thus, standardizing tuberculin on the basis of the minimal lethal dose tells us nothing about its skin-testing potency. As a consequence, O. T. is known to differ as much as 400 per cent in that respect.

Procedure.—For this study, the dosage of O. T. was established at 0.01 mgm. The MA100 human protein was diluted with normal saline solution to give the same skin reaction as that obtained with the established dose of O. T. This proved to be 0.000,5 mgm. If the skin reactions to these doses were negative at the end of forty-eight hours, the test was repeated with double the dose. The amount of MA100 of the several types necessary to produce a reaction comparable with that of the established O. T. was found to vary so that the following dosages were finally determined:

Tuberculin O. T.	0.01	mgm.
MA100 Human	0.0005	mgm.
MA100 Bovine	0.0001	mgm.
MA100 Avian	0.001	mgm.
MA100 Timothy	0.01	mgm.

Questions Investigated.—Answers to five questions were sought.

1. Is the MA100 human protein more sensitive and more selective than O. T.?

A total of 2,328 invividuals were tested simultaneously with O. T. and MA100 human. The group included general hospital patients, both adults and children, sanatorium employees ranging in age from 17 to 73, a general population group composed of nurses in general hospitals, medical students and school children in a rural section. The results are presented in detailed tables in the original article. It was found that more individuals reacted to the MA100 human protein than to O. T. and this was true of known cases of tuberculosis as well as in the general population group.

2. Are the doses recommended safe or are dangerous reactions encountered?

The reactions to the initial dose of O. T. and to the different MA100 proteins were compared.

Reactions were recorded as plus one to four. Necrosis is associated only with a four-plus reaction and of these there were none in the series. There were no constitutional reactions in any of the tests but there were seven reactions which might be called disagreeable in that they were accompanied by lymphangitis or enlarged, painful axillary lymph nodes or superficial vesicles, which were not followed by or associated with necrosis. None of the reactions might be called dangerous. Two of the seven disagreeable reactions occurred with O. T. One with MA100 human protein, one with MA100 bovine protein, two with MA100 avian and one with MA100 timothy.

3. Are the doses recommended and used in this study large enough or should they be increased?

Of 540 clinically tuberculous individuals 91.1 per cent reacted to the established doses of MA100 human protein. In another group of 314 clinically tuberculous individuals 92 per cent reacted to both the initial and repeat doses of MA100 human protein. The 8 per cent of this group who failed to react died or left the sanatorium before the test could be repeated.

By means of another series of tests, an attempt was made to determine whether or not a higher dose would yield a higher percentage of positive reactors. The authors concluded that the doses of the MA100 human protein as recommended (0.0005 mgm. and 0.001 mgm.) are apparently large enough and, therefore, need not be increased.

4. Are the various MA100 proteins specific in that they will pick up only infections by the bacillus from which they are isolated?

An analysis of the percentages of positive reactions in several thousand individuals tested with O. T. and the different MA100 proteins justified the authors in concluding that the bovine, avian and timothy MA100 proteins are not specific. They question whether O. T. in high concentration of a mgm. or more is specific. In small doses of O. T. and MA100 human protein, the reaction is apparently specific.

5. Is there a protein substance common to all acid-fast bacilli?

Comparison of reactions from O. T. and the several MA100 proteins lead the authors to concluded that there is apparently a protein substance common to all acid-fast bacilli, which if given in large enough doses will call forth a typical tuberculin reaction in just as large a proportion of the people as does O. T.

Conclusions.—1. The MA100 human protein is as sensitive and as selective as O. T., and probably more so.

2. The initial and repeat doses recommended for the MA100 human protein are safe in that dangerous reactions are not encountered.

3. The initial and repeat doses recommended for the MA100 human protein are large enough to pick out the majority of tuberculous individuals and apparently do not need to be increased.

4. The MA100 proteins are apparently not specific in large doses at least.

5. There is apparently a protein substance common to all acid-fast bacilli, which, if given in large enough doses, will elicit the same type of reaction as that obtained from Old Tuberculin.

6. As the MA100 protein represents a substance in a purified form which can always be reproduced at the same isoelectric point and which can be weighed out in milligram doses, so that the exact milligram content of the solution is known, it is a better testing substance than Old Tuberculin.

Among the workers mentioned by the authors as participators in the study are: Frank H. Funk, F. M. Huntoon, H. J. White, J. Aronson, Fred Carter, Everett K. Geer, Harold Diehl, D. R. Hastings, Florence Seibert, Parke, Davis & Co., H. K. Mulford Laboratories, Peter Masucci, Kenneth L. McAlpine, Esmond R. Long, Professor H. Valée, L. Van Es, Edward R. Baldwin, M. Dorset, M. I. Smith, W. H. Morriss, John Reichel, National Institute of Health.

The Present Status of the Skin Reaction in Tuberculous and Non-tuberculous Subjects, E. S. Mariette and E. P. K. Fenger, in collaboration with Elmer H. Funk, F. M. Huntoon and H. J. White. Am. Rev. of Tuberc., March 1932.

EASY CANCER CURES

"Avoid any miraculous and easy 'cures' for cancer," is the suggestion of Marian Castle, advocate of cancer prevention and treatment, and writer in the August *Hygeia.* "Invest all of your legacy in Peruvian oil wells, if you like. Select your mate by means of matrimonial agencies. Consult an astrologer about your business deals. Trust your soul's salvation to yogis or swamis or what-not. But go to a good doctor for your body's sake!"

PRESIDENT'S PAGE

IN THE EARLY industrial development of West Virginia, three miners' hospitals were established. They served, at that time, a great humanitarian purpose. But the passage of the compensation law in 1913 should have made the operation of these hospitals no longer necessary. They are still operated, just as private hospitals are operated, opening their doors to any citizen of this or any other state who can pay the prevailing rate. They do some charity work, just as all private hospitals do, but this charity work is almost wholly confined to the poor in the counties in which the miners' hospitals are located.

How very different are these hospitals from the state tuberculosis sanitaria. At the latter a charge of $35 per month is made to all patients. Admissions are restricted to the citizens of West Virginia. This assures hospitalization to the poor of every county who are sufferers from tuberculosis and who can not afford prolonged treatment in private institutions.

An extraordinary session of the West Virginia legislature is now holding forth in the new state capitol. When Governor Conley called the extraordinary session, we understand he included a request for $500,000 for relief of the unemployed. This amount, if properly handled, will do a great good. No mention was made, however, as to whether or not any portion of this sum would be expended for illness of the unfortunate victims of the present economic crisis.

Let us not overlook the fact that this army of unemployed, and their families, may need hospitalization as well as food and clothing. It is grossly unfair to have the beds in the state miners' hospitals occupied by high salaried state employees, and others amply able to pay for whatever they need, while many of the poor in every county must suffer and perhaps die for want of hospital care.

An opportunity to render a great humanitarian service is open to the legislature if it will require the miners' hospitals to serve only the needy of our state. They should either be made to perform some useful service or else be closed up.

Albert H. Hoge

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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HOSPITAL MEETING

The seventh annual meeting of the Hospital Association of West Virginia will be held at Elkins on September 1, 1932. The program is now being worked out under the direction of Dr. W. E. Vest, Huntington, president of the Hospital Association.

One of the features of the Elkins meeting will be the appearance on the program of Mr. Paul H. Fessler of Minneapolis, president of the American Hospital Association. Mr. Fessler, in addition to being an excellent speaker, is one of the best informed hospital executives in America and his visit to West Virginia is awaited with keen interest.

The complete program for the hospital meeting will be announced later this month in the Quarterly Bulletin of the Association. It is understood that there will be considerable discussion relative to the state institutions caring for the sick and a record turnout is expected to take up the various other hospital problems now confronting the people of West Virginia.

The JOURNAL takes this opportunity to extend its best wishes to the Hospital Association for a successful and profitable meeting.

COUNTY SOCIETY NEWS

Due to the publication this month of the complete convention report, it was necessary to eliminate County Society News. All county society items will be carried over to the September issue.

MEDICAL LIQUOR

At the Parkersburg meeting of the West Virginia State Medical Association, the House of Delegates went on record as favoring a change in the present Yost prohibition law that would allow the physicians of this state to prescribe medical whiskey to their patients.

As a result of this action, House Bill 47 was introduced in the lower house of the West Virginia legislature on July 18 by Dr. M. H. Tabor of McDowell County. This bill, if passed, will permit the West Virginia doctors to prescribe medical liquor, it will permit West Virginia druggists to carry medical liquor in stock, and it will place a tax of fifty cents on each pint of liquor sold under the provisions of the act.

The only possible objection we can see to the use of medicinal whiskey is that it might tempt some few doctors to place their prescription blanks on the open market. In the present instance, however, we feel that the state tax of fifty cents per pint, together with the federal tax, will almost eliminate this possibility. With the state and federal tax, the price of medicinal liquor should retail at about $5 per pint.

We are no authority on the prevailing price of moonshine whiskey but we understand that it sells around one dollar per pint. If it continues to sell at that figure, and if medicinal whiskey sells at $4 per pint or more, then certainly there will be no great demand for medicinal whiskey for beverage purposes.

A decided compliment to the medical profession was implied in an editorial published by the *Charleston Gazette* on July 19 relative to Dr. Tabor's bill. The editorial follows:

A revenue bill allowing the licensed physicians of West Virginia to prescribe medicinal liquor and placing a tax of 50 cents for each pint of liquor sold under the provisions of the act has been introduced in the present extraordinary session of the legislature.

West Virginia is one of the few states, if not the only state, in this great nation that forbids the use of medicinal whiskey to the sick. It was small wonder, therefore, that the West Virginia State Medical Association, in recent convention in Parkersburg, voted unanimously to exert its energy

and influence toward amending the present state prohibition law.

The *Gazette* has long felt that the law prohibiting the use of medicinal whiskey in this state was a direct insult to the medical profession. Certainly our physicians should have every possible agency at their command with which to treat the sick. They are permitted to use all of the various opiates and drugs to relieve pain and to nurse the sick back to health. To forbid the use of whiskey for medical purposes is to say that the great profession of medicine is not to be trusted. Yet they are trusted with the physical welfare of the people of West Virginia.

As a matter of fact, we feel that many West Virginia physicians do prescribe medicinal whiskey at the present time. They prescribe it in selected cases when they feel it is absolutely necessary to restore the health of their patients, or to carry their patients through an approaching crisis. To do so, they must break the laws of this sovereign state. This does not hold them back, for every honest physician feels that the life of a patient is of far more importance than a minor infraction of the Yost law.

Yet why make lawbreakers of our doctors? Why force this stigma upon them? Why not trust them with medicinal whiskey, just as we trust them with opium and morphine and the other drugs that are a hundred times more vicious, if improperly used, than alcohol?

We feel that the good doctors of West Virginia did exactly right in taking an emphatic stand against this foolish provision in the Yost law. We hope that the legislature will see fit to enact their measure into law. If this bill will provide additional revenue to the state, so much the better. That will be killing two birds with one stone.

DR. BLOSS MARRIES

Dr. James R. Bloss of Huntington, Editor of the JOURNAL, was married on July 14 to Miss Musette Hollobaugh. Miss Hollobaugh was office nurse for Dr. Bloss for a number of years prior to their marriage. Following the ceremony, Dr. and Mrs. Bloss spent several days at White Sulphur Springs. They are now at home in Huntington.

The JOURNAL wishes to take this opportunity to express its heartiest congratulations and best wishes to Dr. and Mrs. Bloss.

OBITUARY

DR. ARTHUR K. HOGE

Dr. Arthur K. Hoge, 42, prominent Wheeling physician, died suddenly in his automobile on the afternoon of June 29. His body was not discovered until the following day. Funeral services were held from the home on July 1 and interment was made in Greenwood Cemetery, Wheeling.

Dr. Hoge was one of the leading eye, ear, nose and throat specialists in northern West Virginia and was one of the essayists before the general session of the state meeting at Parkersburg last month. In addition to his professional skill, Dr. Hoge was also well known for his church and political activities.

He was a native of Wheeling, having been born and educated there. He was graduated from Jefferson Medical College, Philadelphia, in 1914, and after considerable postgraduate work he located in Wheeling in 1917. He was a member of the Ohio County and the West Virginia State Medical Association, the Southern Medical Association, and was a Fellow of the American College of Surgeons. Dr. Hoge also belonged to the Wheeling Kiwanis Club, the Fort Henry Club, and the Cedar Rocks Country Club.

He is survived by his widow and two small sons, Arthur K. Hoge, Jr., and Lawrence Allen Hoge. Two brothers, Dr. Thomas R. Hoge and Lawrence A. Hoge, both of Wheeling, also survive.

Following the death of Dr. Hoge, a committee from the staff of the Ohio Valley General Hospital prepared and adopted the following resolution:

WHEREAS, God in his infinite wisdom has removed from our midst Arthur K. Hoge, a physician of great skill, who practiced his profession in our community with brilliant success and honor, one who gave his services unstintingly to the rich and poor alike, never refusing when called in consultation, day or night, to render his most efficient services; kind, generous, and charitable to all.

His family, friends and colleagues, and the community at large have sustained an irretrievable loss which only the passage of time can mercifully mitigate.

Resolved, That our sympathies and a copy of this resolution be sent to the bereaved family, and also a copy to the WEST VIRGINIA MEDICAL JOURNAL, and the resolution be spread on the minutes of the staff of the Ohio Valley General Hospital.

CONVENTION TRANSACTIONS

Sixty-fifth Annual Meeting, West Virginia State Medical Association

COUNCIL MEETING

The council of the West Virginia State Medical Association met in the Chancellor Hotel on the afternoon of May 21 with twelve members and four visitors present. Following approval of the minutes of the previous meeting, reports were received from the Executive Secretary, Treasurer, Auditor, and the Publication Board of the WEST VIRGINIA MEDICAL JOURNAL. Reports of the district councillors were also received and filed.

On motion of Dr. M. T. Morrison, the council voted to recommend a change in the by-laws of the Association relating to the office of treasurer, placing the care and responsibility of all funds of the Association in the hands of the Executive Secretary.

Honorary memberships were conferred upon Dr. S. B. Lawson and Dr. W. F. Farley, Logan, and Dr. R. H. Edmondson, Morgantown.

The status of the Nicholson insurance was brought up and Mr. Savage read a letter from Dr. Nicholson, who is in Sitka, Alaska, relative to the economic depression there. Mr. Savage also announced that he had received a check for $25 from Dr. Nicholson to apply on his insurance premium. On motion of Dr. Dunn, Mr. Savage was instructed to return Dr. Nicholson's check and to inform him that no further demands would be made on him until the return of better business conditions.

Dr. C. G. Morgan requested that the council go on record as favoring a change in the present state laws or regulations that would give West Virginia physicians the right to prescribe spirituous liquors for their patients. After some discussion, Dr. Morgan moved that the council favorably recommend his proposal to the House of Delegates of the Association. This motion was seconded by Dr. C. W. Waddell and carried.

Dr. Dunn moved that the Association defray the railroad and pullman expense of the West Virginia delegates to the annual meetings of the American Medical Association. After some discussion it was agreed that this matter could go over until the December council meeting. A motion to that effect by Dr. B. W. Steele, seconded by Dr. W. E. Vest, carried.

Dr. T. K. Oates spoke briefly of the tax burdens in West Virginia and suggested that the Association go on record as favoring the abolition of the three state miner's hospitals. Dr. Albert H. Hoge, President of the State Association, in discussing this suggestion, said that he felt the three miner's hospitals should be abolished but urged that the Association keep a "hands off" policy in this regard. He pointed out that the Association would be misunderstood and severely criticized for supposed selfish motives if the Association started an active campaign to do away with these hospitals. After further discussion by various councillors, this matter was dropped without any action being taken.

On motion of Dr. Morgan, the present Publication Board of the WEST VIRGINIA MEDICAL JOURNAL was reëlected to serve during 1933.

There being no further business to come before the council, the meeting adjourned.

JOE W. SAVAGE,
Executive Secretary.

HOUSE OF DELEGATES

June 20, 1932

The House of Delegates of the West Virginia State Medical Association convened in the Chancellor Hotel, Parkersburg, at 8:30 o'clock on the evening of June 20, 1932, with Dr. Albert H. Hoge, President, presiding. Minutes of the previous meeting were dispensed with and approved as published in the WEST VIRGINIA MEDICAL JOURNAL.

The following reports were received and filed:

Committee on Necrology, presented by Dr. W. E. Vest.

Committee on Public Policy and Legislation, read by Mr. Savage.

Committee on Workman's Compensation, read by Mr. Savage.

Committee on Publication, presented by Dr. J. R. Bloss.

Committee on Permanent Home, read by Mr. Savage.

Committee on Scientific Work, presented by Dr. E. L. Armbrecht.

Report of the Executive Secretary.

Report of the Treasurer.

Following the presentation of the report of the

Executive Secretary, Dr. M. T. Morrison introduced a resolution eliminating the salary of the Treasurer of the Association and transferring most of the duties of the Treasurer to the office of the Executive Secretary. After some discussion this resolution, which amended Sections 3 and 4 of Chapter IV of the by-laws, was carried.

Dr. B. W. Steele introduced a resolution creating a new standing committee on medical economics and merging the duties of the Compensation Committee with the Economic Committee. After discussion, this matter was placed on the table for one day.

At the request of the chair, Dr. C. W. Waddell read the report of the annual audit of the Association's financial condition which had been prepared by Mr. B. H. Puckett, certified public accountant. This report was accepted and filed.

Under the head of new business, Dr. C. G. Morgan presented the recommendation of the Council that the Legislative Committee of the Association be instructed to take whatever steps necessary to enable the physicians of West Virginia to prescribe medical liquors when they deemed it necessary for the good of their patients. This motion was seconded by Dr. L. W. Lawson. An amendment was then offered by Dr. C. H. Maxwell to the effect that the Association go on record as opposed to alcoholics as a beverage. The amendment was not acceptable to Dr. Lawson and was, therefore, ruled out of order by the chair. After considerable discussion, Dr. Morgan's t motion carried.

Dr. C. H. Maxwell then presented a resolution to the effect that the West Virginia State Medical Association was opposed to the use of alcoholics as a beverage. This resolution carried.

There being no further new business, the meeting adjourned on motion of Dr. George D. Jeffers.

June 21, 1932

The House of Delegates of the West Virginia State Medical Association convened in the Chancellor Hotel, Parkersburg, at 10 o'clock on the evening of June 21, 1932, with Dr. Albert H. Hoge, President, presiding. Following the roll call, nominations for President were in order. Dr. E. L. Armbrecht placed in nomination the name of Dr. D. A. MacGregor, Wheeling. This nomination was seconded by Dr. B. F. Harden, Dr. R. M. Bobbitt, Dr. H. P. Linsz, and Dr. B. I. Golden. There being no further nominations, Dr. MacGregor was elected unanimously by acclamation.

The remaining officers and committee members were elected as following:

First Vice-President, Dr. James R. McClung, Richwood.

Second Vice-President, Dr. T. L. Harris, Parkersburg.

Treasurer, Dr. T. M. Barber, Charleston.

First District Councillor, Dr. J. E. Offner, Fairmont.

Second District Councillor, Dr. T. K. Oates, Martinsburg.

Third District Councillor, Dr. W. T. Gocke, Clarksburg.

Fourth District Councillor, Dr. W. T. Goff, Parkersburg.

Fifth District Councillor, Dr. A. G. Rutherford, Welch.

Sixth District Councillor, Dr. G. G. Irwin, Charleston.

Chairman, Scientific Committee, Dr. R. M. Bobbitt, Huntington.

Members, Scientific Committee, Dr. G. H. Barksdale, Charleston, and Dr. A. H. Stevens, Fairmont.

Committee on Professional Relations, Dr. E. P. Smith, Fairmont.

Committee on Medical Education, Dr. W. P. Sammons, Wheeling; Dr. J. Ross Hunter, Charleston, and Dr. W. T. Henshaw, Charleston.

Delegate to A.M.A., Dr. James R. Bloss, Huntington.

Delegate, A.M.A., to succeed Dr. H. M. Hall, Dr. R. H. Walker, Charleston.

Alternate delegate, Dr. Howard T. Phillips, Wheeling.

Alternate delegate, Dr. W. E. Vest, Huntington.

Place of 1933 meeting, Charleston.

Dr. M. F. Petersen, Chairman, then presented the report of the Committee on the President's Address, complimenting Dr. Hoge on his courage and asking that the Association go on record as endorsing his recommendations. On motion of Dr. R. H. Dunn, seconded by Dr. S. M. Prunty, the resolution was adopted.

Under the head of unfinished business, Dr. Vest read the report of the Reeves Memorial Committee which was received and filed.

Dr. B. W. Steele presented a resolution to amend Section 1 of Chapter VIII of the by-laws of the Association, creating a new standing committee on

medical economics. He then moved the adoption of his resolution which was seconded by Dr. W. T. Gocke and carried.

Under the head of new business, Dr. L. W. Lawson moved for reconsideration of the vote on the motion presented by Dr. C. H. Maxwell on June 20, 1932, placing the Association on record as opposing alcoholics as a beverage. This motion was seconded by Dr. C. G. Morgan. It was brought out in the discussion that followed that the question of using alcoholic liquor as a beverage was not a medical problem and that the question should, therefore, not be considered at a medical meeting. The motion to reconsider was carried. Upon reconsideration, Dr. Maxwell's motion was stricken from the record.

Dr. B. I. Golden presented a motion asking that a committee of five members be appointed to coöperate with the American Legion in bringing about some plan to oppose the present method of hospitalization of United States veterans. This motion was amended by Dr. Vest to the effect that all five members of the committee be veterans. After discussion by Dr. Golden, Dr. F. B. Harrington and Dr. Vest, this motion prevailed.

Dr. George D. Jeffers presented a resolution on behalf of the Woman's Auxiliary requesting the Association to go on record as approving and backing the radio broadcasting programs sponsored by some of the Auxiliary groups. This motion was carried.

Dr. R. H. Walker presented a motion authorizing the President to appoint a committee of three members to study and consult with like committees from other allied professions with the idea of correlating various activities of the various professional boards into a single function. This motion prevailed.

There being no further business, the meeting adjourned.

JOE W. SAVAGE,
Executive Secretary.

REPORT OF EXECUTIVE SECRETARY

This meeting marks the close of my fifth year as Executive Secretary of the West Virginia State Medical Association. I would like to review briefly a few of the things that have been accomplished during my incumbency.

At the beginning of 1927, after a rather sad financial experience, the Association found it necessary to borrow funds from its bank in order to start out the year. The JOURNAL was approximately $500 in debt. Although the prospects did not seem bright at that time, the Association was beginning to acquire a definite standing as a real live-wire state organization; one to be reckoned with in all matters concerning the practice of medicine. This was largely due, I am sure, to my predecessor.

By the close of 1927 the Association was again solvent and had a comfortable surplus in the bank. The JOURNAL had wiped out its debt and was showing a little profit each month. In 1928 several new societies were organized and a successful effort was made to bind the established societies closer to the State Association. In 1929, for the first time in many years, we went through a legislative session with no ill effects. It was during the 1929 session of the legislature that the Association began to establish itself as the outstanding leader in matters pertaining to medical legislation.

In 1928, and again in 1929, the JOURNAL was enlarged and improved in many ways. Its advertising revenue continued to increase and the JOURNAL profit showed a steady upward trend, independent of subscriptions. The Association also continued to prosper and new activities were added. Among other things, the Association established the first medical library in West Virginia; a library which has since grown remarkably and which is now used extensively by the members who support it.

Three additional societies were organized in 1929 and 1930 and there was a slow but steady increase in the roster of members. The Association meantime changed its quarters from two small office rooms in the Professional building in Charleston to a large suite on the ground floor of the Public Library building, in the heart of the business section of the city. In the large library are held the year-end council meetings and the conferences of county society secretaries. The reception room is large enough for the meetings of the Kanawha Medical Society, which has met there on several occasions with from sixty to seventy-five members in attendance.

For the period ending May 1, 1931, the Association had cash assets valued at approximately $16,550. The JOURNAL had shown the largest profit in its history ($1,300.85) and had a cash reserve of $4,514.79. This was immediately following the 1931 legislative session, which was, in my humble opinion, a demonstration of the real

power and influence of organized medicine in West Virginia. It was at this 1931 session that we were consulted, for the first time, by legislative leaders on proposed bills. Our opinion was sought by them on all matters pertaining to the practice of medicine. Hostile measures were discarded at our suggestion and two of our bills were enacted into law. It was apparent on every hand that this Association had at last acquired the rightful prestige and influence for which it had so long been struggling.

My experience during the past five years has taught me many things about organized medicine and about the internal working of this Association. From time to time corrections have to be made and changes are needed in our constitution and by-laws, in order to make the government and management of the Association more efficient and more easily handled.

Last year I suggested that the office of the Treasurer of this Association be abolished and the duties of this office be transferred to my department. This suggestion was endorsed by Dr. Barber, who holds the office of Treasurer, and by Mr. B. H. Puckett, certified public accountant who makes the annual audit of our books. It was felt that this matter, being a new departure from an old custom, should lay on the table at least a year before being acted upon.

I would like to point out once more that the office of Treasurer accomplishes no good purpose, that it costs the Association more than $100 per year, that it doubles the risk of loss through misappropriation and that it necessitates an inefficient and cumbersome method of handling the finances of this organization. I would, therefore, like to urge once more, with the kind support of Dr. Barber, that his office be abolished and that the Executive Secretary be made entirely and solely responsible for the Association's funds.

My second recommendation covers the field of medical economics. The importance of this phase of the Association's work has increased by such leaps and bounds during the past few years that, in my opinion, this Association should create a standing committee to cope with our economic problems. Inasmuch as the present committee on Workmen's Compensation, which is not a standing committee, is covering a field that rightfully comes under the head of medical economics, it strikes me that it would be wise to incorporate the compensation committee with a newly created committee on Medical Economics. The importance of such a committee can hardly be questioned, and I, therefore, suggest that the by-laws of this Association be changed to include a standing committee on medical economics. If this is done, I further suggest that the Workmen's Compensation Committee be abolished and that the duties of this committee be merged into the newly created economics committee.

I leave this suggestion, with the other, for your consideration.

Reviewing the work of the past year, I think our greatest accomplishment is the state-wide attention and recognition that we have received in the press. For several years my office has been sending out newspaper releases on various medical matters of interest to the lay public. A few newspapers have used these stories; more have not. During the past year, however, the situation has completely reversed itself. About two-thirds of the newspapers in the state have sought our releases and have used them in prominent positions. The Associated Press has come to realize the news value of our releases and this great organization has issued almost one-half of our stories for us. It was the Associated Press, and not myself, that recently released our convention program.

Practically all of the publicity regarding the Association, regardless of its origin or method of release, has gone out through the Association headquarters in Charleston. The actual value of this type of recognition is intangible and, therefore, difficult to estimate. Unquestionably the value is considerable, for the people of West Virginia are constantly aware that organized medicine, in the form of the West Virginia State Medical Association, is on the job and working for a common interest. If this were not valuable we would not be seeing the many different defense releases from the state capitol. Apparently there are members of the state's officials who are worrying about our newly acquired prestige.

The routine activities of this Association have been carried along in the usual way during the past year. Through the various committee reports you will get a much better insight into the Association affairs and activities than I can here outline for you. Rather than occupy your time with a recital of minor tasks and accomplishments, I will conclude my report with a few remarks on the status of our membership and the achievements of the JOURNAL.

Conforming to the standards that have been recently set up in all the executive reports I have

read, I want to call upon the economic depression to bear witness to my subsequent remarks.

At the present time we have 175 delinquent members of the West Virginia State Medical Association. At the Clarksburg meeting last year we had 220 delinquent members. The fact that our delinquent list for 1932 is 45 less than it was in 1931 is, to me, a good omen. It is a good omen because at the close of 1931 we were able to show a very creditable membership record. According to the present status, we should be able to show an even better membership record at the close of 1932. Our percentage of delinquency is 15%. In some of the larger state societies the delinquency is running as high as 40 and 50%. In view of this, and in view of our 20% delinquency last year, I feel that our present showing is at least comforting.

Our total membership at the present time, including delinquents, is 1,116. This is approximately the same number of members we had last year at this time. It should be remembered, however, that approximately 100 former members were dropped from the records on January 1, 1932. These were counted last year and are not counted this year. We have made up this loss with new members since our last state meeting. I might say that we have received 31 new members already this year and undoubtedly there will be as many more during the next six months.

I am especially happy to report on the financial condition of the WEST VIRGINIA MEDICAL JOURNAL. In spite of the prevailing hard time, the JOURNAL wound up the fiscal year on May 1, with an 85% larger profit than it had ever shown before. Heretofore, the largest JOURNAL profit was $1,300.95 which was set aside in 1931. This past year the profit was $2,201.90. This is slightly more than one-half of the salary of the Executive Secretary. The present cash reserve of the JOURNAL, which has been accumulated during the past five years, is slightly over seven thousand dollars. The greater part of this is invested in government bonds and securities approved by the Publication Board.

The combined financial statement of the West Virginia State Medical Association, including the JOURNAL, general and special funds, investments, etc., was prepared by Mr. Puckett on May 1. This shows the total cash reserve to be $19,992.81.

In closing, I wish to express my sincere thanks to Dr. Hoge, to the councillors and delegates, the Publication Committee, to the component society secretaries and to the membership at large for a pleasant and successful year. It seems to me that each year I spend in my present work is happier and more interesting than the last. During the past twelve months the Association has operated under trying financial and economic conditions which it will probably never again have to face. The past year has taxed the strength of the Association as no other year has ever done. Yet our footing has been firm and our standing unimpaired. We have emerged stronger than before, with more to show for the past twelve months of depression than we have ever had for the best years of prosperity.

Respectfully submitted,

JOE W. SAVAGE,
Executive Secretary.

RESOLUTIONS

MEDICAL ECONOMICS COMMITTEE

WHEREAS, the subject of medical economics is becoming of ever-increasing importance to organized medicine in this state, and

WHEREAS, many of the important problems of the West Virginia State Medical Association deal directly with this subject, and

WHEREAS, the committee on Workman's Compensation is the only committee now dealing with any phase of medical economics;

Therefore, be it Resolved, that Section 1 of Chapter VIII of the by-laws of this Association be changed and amended to include a Committee on Medical Economics as a standing committee of the West Virginia State Medical Association, and

Be it further Resolved, that the present Workman's Compensation Committee, which is not a standing committee, be hereby abolished and its duties merged with the duties of the newly created committee on Medical Economics.

OFFICE OF TREASURER

WHEREAS, the office of Treasurer of the West Virginia State Medical Association necessitates a double handling of the Association funds and thereby requires a security bond for both the Treasurer and Executive Secretary, and

WHEREAS, this joint handling of funds accomplishes no good purpose but instead doubles the risk of loss through malfeasance, and

WHEREAS, a double audit of the Association's finance is necessitated each year, at considerable

extra expense, in order to determine the Association's financial status, and

WHEREAS, this situation could be immediately remedied by placing the responsibility and care of all funds in the hands of the Executive Secretary, who is already sufficiently bonded, and

WHEREAS, this proposed change has been recommended by the present Treasurer of this Association, as well as by the Executive Secretary and by the Association's public accountant, and

WHEREAS, such a change would not only promote greater efficiency in handling the Association's finances but would also save the Association approximately $150 per year;

Now therefore, be it Resolved, that effective January 1, 1933, Section 3 of Chapter VI of the by-laws of this Association relating to the duties of the office of Treasurer be amended to read, "The Treasurer shall be financial overseer of this Association, serving without pay, and shall have access to the books and records of the Executive Secretary at all times. He shall investigate any rumors or suspicious circumstances that come to his attention in regard to the Association's financial status and, if he feels justified in doing so, shall report his findings to the President and the Council Chairman. As soon as possible after May first of each year he shall employ a certified public accountant to audit the books and records of the Executive Secretary and shall submit this audit to the council and to the house of delegates at the annual meeting immediately following,

And be it further Resolved, that effective January 1, 1933, Section 4 of Chapter IV of the by-laws of this Association relating to the duties of the Executive Secretary be amended to read, in addition to what this section already contains, "The Executive Secretary shall be custodian of the funds and securities of the Association. He shall pay out money from the treasury only upon the written order of the President. He shall subject his accounts to such examination as the House of Delegates or the Council may order, and he shall annually render a report showing the money he has received and expended during the year, and the state of the funds in his hands. He shall file with the Treasurer a bond for the faithful performance of his duties. In case of the absence of the Executive Secretary, or his inability to act, or in case his office becomes vacant, the financial records of his office shall be performed by the Treasurer until a new Executive Secretary be chosen by the council. The Executive Secretary shall report to the Council at each meeting what funds he has on deposit, over and above what are reasonably necessary for current expenses, in order that the same may be properly invested. Such funds shall be invested only in bonds of the United States of America. The Executive Secretary shall negotiate such investments, but the same shall not be made until approved by the Council.

COMMITTEE REPORTS

REEVES MEMORIAL COMMITTEE

Your committee appointed last year to investigate the feasability of erecting a monument to the founders of the West Virginia State Medical Association begs to report as follows:

Two members of our committee, Drs. T. M. Hood, Chairman, and Dr. C. O. Henry, visited Rivesville and attended a meeting of the town council there. This body was very enthusiastic in offering coöperation with our Association and agreed to pay one-half the expense if such a monument were erected. They passed unanimously the following resolution:

"That a committee be appointed from members of the Rivesville town council to act with equal power with the Medical Association in the erection of a monument in memory of Dr. Reeves within the corporation limits of Rivesville."

This committee was appointed and your committee would recommend, therefore, as follows:

(1) That the monument be erected on U. S. Route 19 within the corporate limits of the town of Rivesville. (2) That the State Association approve the expenditure of sufficient funds to pay one-half the cost of the erection of said monument. (3) That the committee be continued and authorized to meet with the committee of the Rivesville town council and select the form, cost, and exact site of the monument and report at the first session of the House of Delegates at the next annual meeting.

T. M. HOOD, Chairman,
C. O. HENRY,
ROBERT J. REED,
T. M. BARBER,
W. E. VEST, Secretary.

COMMITTEE ON PRESIDENT'S ADDRESS

Your Committee on the President's Address has conferred and discussed the address of our President and wishes to report as follows:

We admire and commend Dr. Hoge for his courageous stand in discussing these vital issues so frankly and fairly. We believe that he has the interests of the profession at heart and has placed them above any commercial or political gain to himself.

We feel that this organization should go on record as endorsing the recommendations contained in his address.

M. F. PETERSEN, Chairman,
B. W. STEELE,
HOWARD T. PHILLIPS.

PUBLIC POLICY AND LEGISLATIVE COMMITTEE

The chairman of the Council asked the Public Policy and Legislative Committee what is to be sponsored and what is to be opposed during the coming year.

I understand that the President of the Association will outline in his annual address a number of problems to furnish employment to all those of our membership who have disposition to work for our general welfare. Opposition to his ideas has developed outside our profession among those who think they stand to lose money or influence. This committee appeals to all members of the association to give careful attention to the President and agree on a program that this committee can put forward with confidence, knowing that it has the united support of the medical profession.

It is exceedingly important for the medical men to take a position that is impregnable, because of active opposition from prominent laymen.

There is one very desirable law that will not be dealt with in the President's address. We refer to compulsory insurance to cover automobile accidents. A very satisfactory act was sponsored and probably will be sponsored again by the Automobile Club of West Virginia. We appeal to all medical men to use their influence in this regard with the Automobile Club to continue its laudable efforts in this direction and see to it that the rights of those who give aid to the injured shall be protected.

There were approximately 860,000 people in the United States, and 1,800 in West Virginia, injured in automobile accidents last year. The number of injuries will not be fewer because of the tendency to greater speed in driving. When two drivers are approaching each other at 60 miles per hour they will probably take notice of each other when 200 feet apart. In one second of time they will be together. If one has not kept his side of the road, one second is not time enough for the other to escape. If a man is driving at 50 miles per hour and a child steps into his path 84 feet ahead, the driver has one second of time to stop, or dodge that child. It can not be done. There will continue to be many accidents.

It is desirable that as many as possible of our legislative bills be sponsored by those outside our profession because of prompt opposition that comes forward against any act sponsored by this group.

It is important to sponsor only two or three bills in our own name because it is next to impossible to guide successfully a larger number through the intricate maze of legislative committees.

Respectfully submitted,

R. A. IRELAND, Chairman,
C. R. OGDEN,
R. H. WALKER,
D. A. MACGREGOR,
JAMES MCCLUNG.

COMMITTEE OF WORKMAN'S COMPENSATION

In the absence of a legislative session this year, and because the relationship between the practicing physicians and the Workman's Compensation Department is apparently satisfactory, your Committee on Workman's Compensation has little to report. Our chief interest in making a report at all is to let the Association know that our services are available at all times and that we are ready to function on any questions or problems that may be assigned to us. Nothing has been referred to our committee during the past year. Therefore, we have not functioned, though we are very much alive.

Next year will see the 1933 session of the West Virginia legislature. We naturally assume that there will be considerable work assigned to the Workman's Compensation Committee prior to and during the legislative session. We feel that our committee is amply familiar with the Compensation laws and the administration of the Compensation Department to cope with any Association problems assigned to us. We take this opportunity, therefore, to reaffirm our willingness to serve this Association in any and every way that we can.

Respectfully submitted,

R. H. WALKER, Chairman,
T. E. VASS,
S. S. HALL.

COMMITTEE ON PUBLICATION

In spite of the much-talked-of economic depression of 1931-1932, the WEST VIRGINIA MEDICAL JOURNAL showed a larger profit for the fiscal period ending May 1, 1932, than ever before. The JOURNAL profit averaged $183.50 per month, or a total of $2,201.90. The next largest profit ever made on the JOURNAL was for the fiscal period ending May 1, 1931. During that period the JOURNAL set aside $1,300.95, or slightly better than $100 per month. Previous to 1931 the JOURNAL has averaged a profit of about $1,000 per year since 1927.

The total cash assets of the JOURNAL now stand at $6,716.69. Of this amount, approximately $6,000 is invested in interest-bearing securities and the balance is carried in the checking account.

We can give no particular reason for the unusual increase in profits, except that it has been due to hard work and to an ever-increasing interest in the JOURNAL on the part of the members of the Association. This profit has been made exclusively on advertising. Advertisers put their money where they can get results. They are apparently getting good results from West Virginia; otherwise they would not be buying so much space with us.

It all comes right down to the fact that the JOURNAL has been vastly improved in scientific and editorial matter, and in appearance. We have more outside subscriptions on our mailing list than we have had before, and we are quoted more by other medical journals. The merit of the WEST VIRGINIA MEDICAL JOURNAL is attracting attention both inside and outside the state, and, as long as we can continue to hold the interest of the Association members, we should continue to keep our heads above water even in the most distressing times.

If business conditions continue to grow worse, we hope the Association will not expect the JOURNAL to keep up the financial pace of the past twelve months. We don't imagine we will do as well next year. But whether conditions are good or bad, we will continue to push the JOURNAL along in the best way we know.

Respectfully submitted,
JAMES R. BLOSS, Chairman,
C. A. RAY,
W. E. VEST,
J. H. ANDERSON,
C. R. OGDEN.

COMMITTEE ON PERMANENT HOME

At the Clarksburg meeting last year, the Permanent Home Committee of this Association was instructed to keep on the lookout for a prospective site for a future Association home in Charleston. In giving these instructions, it was pointed out that considerable valuable property had been sold in Charleston at public auction and at prices far less than the actual value of the said property. It was thought that there might possibly be a chance for the Association to pick up a permanent home site at a bargain figure.

Since the Clarksburg meeting your committee has been on the alert but has nothing of special interest to report at this time. We have watched the forced sale of real estate in Charleston with considerable interest, but so far nothing has turned up that looked especially desirable. Some residential property has been sold out at low figures but most of the property in the business section of the city is controlled by banking houses that are, fortunately, still solvent.

Unless our committee is otherwise instructed, we shall continue to keep on the lookout for a prospective permanent home site. We feel that our chief duty is to keep alive the question of a permanent state home for the Association, and to that end we shall confine our efforts.

Respectfully submitted,
W. P. BLACK, Chairman.

COMMITTEE ON NECROLOGY

Name	*Died*
Dr. W. H. Greene, Weston	May 2, 1931
Dr. J. B. Lohan, Charleston	May 13, 1931
Dr. Thomas M. Wilson, Elkins	May 23, 1931
Dr. J. J. Goff, Parkersburg	May 27, 1931
Dr. Harry M. Hall, Wheeling	June 5, 1931
Dr. Emory Wallace Strickler, Fairmont	July 1, 1931
Dr. Albert S. Bosworth, Elkins	July 17, 1931
Dr. Carl W. Smith, Princeton	Sept. 1, 1931
Dr. M. R. Stone, Parkersburg	Sept. 4, 1931
Dr. L. D. Rupert, Charleston	Sept. 7, 1931
Dr. David McAllister Aikman, Wheeling	Oct. 4, 1931
Dr. Clark R. Campbell, Williamsburg	Sept. 10, 1931
Dr. Abraham S. Warder, Jr., Grafton	Oct. 26, 1931
Dr. Joseph O. Eddy, Friendly	Oct. 29, 1931

Dr. Benjamin B. Wheeler,
Charleston .....Nov. 5, 1931
Dr. Carter S. Fleming, Fairmont...Nov. 11, 1931
Dr. Atlee Mairs, Charleston.....Nov. 14, 1931
Dr. J. C. Irons, Elkins.....Nov. 30, 1931
Dr. Archibald M. Burt, Mannington Dec. 15, 1931
Dr. John E. Corbin, Clarksburg....Dec. 16, 1931
Dr. Elmer Perry, Fort Spring.....Jan. 7, 1932
Dr. Ernest Roy Logan, Omar.....Jan. 13, 1932
Dr. Dennis D. Casto, Ripley.....Jan. 18, 1932
Dr. John Freeland,
White Sulphur Springs.....Jan. 19, 1932
Dr. Joseph E. Rader, Huntington..Feb. 26, 1932
Dr. Elbert F. Peters, Princeton....Feb. 29, 1932
Dr. Benjamin F. Shuttleworth,
Clarksburg .....Mar. 31, 1932
Dr. Zolly B. Ferrell, Parkersburg...Apr. 9, 1932
Dr. Edward Winfield Howard,
Fairmont .....Apr. 16, 1932
Dr. E. R. Hatfield, Charleston.....Apr. 20, 1932
Dr. O. J. Massey, Wheeling.....Apr. 21, 1932

AUDITOR'S REPORT

To the West Virginia State Medical Association,
GENTLEMEN:

At the request of Mr. Joe W. Savage, your Executive Secretary, I have audited the receipts and disbursements of the several accounts of the West Virginia State Medical Association, covering the fiscal year ended May 1, 1932. Beginning with the balance as set forth in my audit for the preceding year, I have made test verifications, reconciled balances in banks with statements from the depositories, and inspected the securities held in the Indigent and Medical Journal accounts.

You will note under the Medical Journal account an investment of $358.20 in an annuity contract with the Fidelity Investment Association. I am informed by Mr. Savage that this contract was entered into upon the condition that the above named company agreed to an advertising contract with the Medical Journal for a period of ten years, the amount of which is approximately equivalent of 50% of the amount of the annuity contract.

In a previous report to you, I suggested that considerable labor and some expense could be saved by having all the records kept by the Executive Secretary's office instead of the Treasurer keeping part of the accounts as has been done heretofore; whatever change is required could be made in order to combine the offices of the Executive Secretary and the Treasurer. Under the present method, no good purpose is served by splitting the accounts and it is in no way a double check. An adequate fidelity bond and a periodical audit by a professional accountant is desirable in any event. Fidelity bonds are now being carried on Dr. Barber, Treasurer, in the amount of $12,500.00 and on Mr. Savage, Executive Secretary, in the amount of $5,000.00. The total amount of cash and securities in all funds is now approximately $20,000.00 and in case the above suggestion is followed, the bond on Dr. Barber should be cancelled while the bond on Mr. Savage should be increased to $20,000.00. If the suggestion is not followed, the bond on Mr. Savage should be increased to $10,000.00 so as to cover maximum amount of funds in the hands of each at all times.

A combined statement of receipts and disbursements, through all of the accounts, after eliminating interest-account transfers, is shown on the last page of this report. It may be seen that the cash and securities, exclusive of the cash surrender value of Dr. Nicholson's life insurance and the accounts receivable due the Medical Journal account, has increased from $17,052.11 to $19,992.81 during the current fiscal year.

All books and records for the period under review were ascertained to be in the usual good order.

GENERAL FUND

FISCAL YEAR ENDED MAY 1, 1932

Balance brought forward May 1, 1931		$ 3,954.14
Receipts		
Dues paid in current year	$ 9,893.50	
Interest on bank balances	3.35	
Joe W. Savage — refund of amount advanced for automobile fund	180.00	
Loan from Medical Defense Fund	2,500.00	12.576.85
		$16.530.99
Disbursements		
Salary of Executive Secretary	$ 4.200.00	
Office Salaries	1.260.00	
Office Supplies and Expense	394.05	
Office Equipment:		
Mimeograph $ 40.00		
File Case 30.00		
Frigidaire Drinking Fountain 100.00	170.00	
Office Rent	480.00	
Library Expense	104.36	
Telephone and Telegraph	125.46	
Postage	279.62	
Traveling Expense	404.64	
Salary—Treasurer	100.00	
Legal Expense, Payne, Minor & Bouchelle	100.00	
Annual Premium for Insurance on Life of Dr. Hugh G. Nicholson	1,301.00*	

Miscellaneous Classified Expense	349.90	
Transferred to:		
Medical Defense Fund	818 75	
Indigent Fund	880 75	10,968.53
BALANCE MAY 1, 1932		$ 5,562.46
Capital City Bank (Treasurer's Account)	$ 3,009.38	
Kanawha Valley Bank—Savings Account No. 3509—(Treasurer's Account)	115.28	
Charleston National Bank (Exec. Secy's. Acct.)	461.80	
Bank of Commerce (Exec. Secy's. Dues Acct.)	1,976.00	
	$5,562.46	

* Cash surrender value of life insurance, $3,600.00.

MEDICAL JOURNAL ACCOUNT

Balance brought forward May 1, 1931			$ 4,514.79
Receipts			
Advertising	$ 7,430.52		
Less Discounts	990.86	$6,439.66	
Sale of Liberty Bonds:			
Proceeds of sale	4,259.43		
Cost	4,105.48		
Profit		153.95	
Interest on United States Treasury Bonds		87.70	
Interest on Bank Balances		3.08	6,684.39
			$11,199.18
Disbursements			
Printing	$ 3,921.00		
Less Discounts	77.37	3,843.63	
Engraving	264.15		
Less Discount	40.93	233.22	
Postage Deposits		100.00	
Traveling Expense		87.00	
Miscellaneous Unclassified		228.64	4,482.49
BALANCE MAY 1, 1932			$6,716.69
Charleston National Bank	$	646.99	
United States Treasury Bonds—$5,700.00 par value		5,711.50	
Annuity Contract with Fidelity Investment Association		358.20	
		$6,716.69	

INDIGENT FUND

Balance brought forward May 1, 1931		$5,041.23
Receipts		
Bond Interest	$ 135.00	
Interest on Savings Account	38.87	
Transferred from General Funds	880.75	1,054.62
		$6,095.85
Disbursements		
Mrs. S. A. Daniels		75.00
BALANCE MAY 1, 1932		$6,020.85
Kanawha Banking & Trust Company—Savings Account No. 17266	$ 1,905.52	
Federal Land Bank Bonds:		
Balance May 1, 1931 (Par value $1,500)	1,525.00	
Purchased July 17, 1937 (Par value $2,500)	2,590.33	
	$6,020.85	

MEDICAL DEFENSE FUND

Balance brought forward May 1, 1931		$3,052.15
Receipts		
Interest on Savings Account	$ 58.96	
Transferred from General Funds	818.75	877.71
		$3,929.86
Disbursements		
Loan to General Fund		$2,500.00
BALANCE MAY 1, 1932 Charleston National Bank—Savings Account No. 40000.		$1,429.86

CONVENTION FUND

Balance brought forward May 1, 1931		$ 489.80
Receipts		622.50
		$1,112.30

Disbursements

1931			
May 8	M. R. Matthews, Postage on programs	$	20.25
14	Dana Evans, Advance on reporting		35.00
14	Woodyard Commercial Printers, Programs		88.20
14	McDowell Sign Company, Signs		7.25
18	Mrs. J. E. Wilson, Auxiliary entertainment		50.00
18	Dr. A. T. Post, Local committee		7.80
20	Joe W. Savage, Petty Cash items		25.00
21	The Sport Shop, Golf trophy		21.30
21	Hartley-Rowd Co., Cheesecloth		10.80
21	Waldo Hotel, Banquet		100.00
21	Bland's Drug Store, Cigars		30.25
21	Stonewall Jackson Hotel, Convention expense		122.65
21	Stonewall Jackson Hotel, Dr. Scudder's account		3.00
27	Joe W. Savage, Expense to Parkersburg		6.00
28	Dr. C. L. Scudder, Traveling expense		85.58
29	Dr. Clarence H. Smith, Traveling expense		41.75
June 13	Stonewall Jackson Hotel, Room—local committee		11.10
15	Dana Evans, Balance on reporting		75.00
15	Dr. Sidney R. Miller, Traveling expense		41.00

July 14	Robert W. Avis. Drawing floor plan	2.00	
1932			
Apr. 8	St. Louis Button Co., Badges	40.70	
8	Tablet & Ticket Co., Stickers	24.72	849.35
BALANCE MAY 1, 1932			$ 262.95

Capital City Bank.

COMBINED STATEMENT OF RECEITPS AND DISBURSEMENTS AFTER ELIMINATING INTER-ACCOUNT TRANSFERS

Balance brought forward May 1, 1931:		
General Funds	$ 3,954.14	
Medical Journal Account	4,514.79	
Indigent Fund	5,041.23	
Medical Defense Fund	3,052.15	
Convention Fund	489.80	17,052.11
Receipts		
Dues	$ 9,893.50	
Advertising	6,439.66	
Commercial Exhibits	622.50	
Profit on Liberty Bonds	153.95	
Interest on Bank Balances	104.26	
Bond Interest	222.70	
Refund on Automobile Emblems	180.00	17.616.57
Disbursements		
General Account	$ 9.269.03	
Medical Journal Account	4.482.49	
Indigent Account	75.00	
Convention Account	849.35	14.675.87
BALANCE MAY 1, 1932:		
General Funds	$ 5,562.46	
Medical Journal Account	6,716.69	
Indigent Fund	6,020.85	
Medical Defense Fund	1.429.86	
Convention Fund	262.95	$19,992.81

CERTIFICATE

I have audited the receipts and disbursements of the West Virginia State Medical Association, covering the fiscal year ended May 1, 1932, composed of the several accounts as shown in statements attached hereto, namely: General Funds, West Virginia Medical Journal Account, Indigent Fund, Medical Defense Fund, and Convention Fund, and I hereby certify that all receipts of record have been fully accounted for as stated in the attached statement and that the balances at the end of the period, composed of cash and securities, have been verified.

Respectfully submitted,

B. H. PUCKETT,
Certified Public Accountant.

Charleston, W. Va.
May 7, 1932.

WOMAN'S AUXILIARY

HIGH POINTS FROM AUXILIARY REPORTS

The reports from County Auxiliaries read at Parkersburg were, on the whole, most gratifying and revealed a year of untiring effort on the part of local officers.

Cabell county was honored by being asked to join an association of women's organizations in Huntington; a step forward in state-wide recognition. They also made a loan from their scholarship fund to a worthy medical student.

Harrison county sponsored a milk fund for underprivileged school children.

Ohio county put on a "Bundle Bridge" and took in more than 250 bundles of clothing which they re-conditioned for school children. Also they cleared $500 for a "children's clothing fund," a part of Wheeling's program. This was an example of good organization and coöperation. Mrs. Howard Phillips was chairman.

Monongalia maintained her record of setting the pace in local activities, in the face of bank failures and numerous disappointments.

The Kanawha Auxiliary increased its membership and attendance at meetings held in homes of members.

Marion contributed to a program of self-education by inviting local health workers to their meetings to tell of health programs being carried on within the county. A fund of $60 was raised at a benefit bridge to sponsor *Hygeia*. Marion County Medical Society gave radio talks in a program sponsored by the State Auxiliary. This program is being continued from station WMMN in Fairmont.

Hygeia subscriptions increased more than four times over last year with Mrs. R. H. Walker as state chairman. We expect an even greater increase this year due to the fact that many counties are just now getting their *Hygeia* program under way.

The list of members-at-large is steadily increasing, several having been added at Parkersburg.

An Executive Board meeting will be held some time this fall and we expect to have Mrs. Walter Jackson Freeman, National President, with us at that time. We hope that every county president, as well as every other member of the Executive Board, will be there.—M.T.H.

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

ASSOCIATE EDITORS:

WALTER E. VEST, HUNTINGTON — J. HOWARD ANDERSON, HEMPHILL — C. R. OGDEN, CLARKSBURG — C. A. RAY, CHARLESTON

MR. JOE W. SAVAGE, *Secretary-Business Manager*, Charleston

ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVIII — SEPTEMBER, 1932 — No. 9

PROBLEMS IN THE SURGICAL TREATMENT OF CARCINOMA OF THE LARGE BOWEL *

FRED W. RANKIN, M.D.,
Division of Surgery,
The Mayo Clinic, Rochester, Minnesota

PERHAPS the greatest encouragement to those interested in diseases of the colon and rectum is the remarkable advance in diagnostic efficiency which has characterized the last decade. That the accurate recognition and localization of pathologic lesions of this portion of the alimentary tract has kept step with technical improvement is not to be gainsaid.

In The Mayo Clinic, the surgical extirpation of these lesions has been enormously forwarded by standardization of preoperative and postoperative hospital care. Better selection of cases for operation and the adoption of a flexible type of specialization which coördinates the efforts of laboratory workers, surgeons and clinicians to the advantage of the patient, have brought about a decrease in the mortality rate. The increased diagnostic efficiency has been due largely to improvement in roentgenologic methods, and, at the same time, a better understanding of the clinical syndrome has been advantageous.

An additional fact which may be registered among the advances in this field has been the better recognition by the profession of a favorable prognosis following radical removal of malignant lesions of the large bowel and rectum. Malignancy in this situation accounted for 68 per cent of the lesions for which patients sought advice in the clinic in 1930. Of 542 patients admitted, 363 (68 per cent) were found to be suffering from carcinoma. In 1931, 667 patients were admitted and 353 (almost 53 per cent) were found to be suffering from carcinoma, confirming the observation that approximately two-thirds of the major lesions of the lower half of the alimentary tract are malignant.

That the diagnosis of lesions in the colon has been immeasurably forwarded in recent years by roentgenologic technical advances, is indisputable (Figs. 1 to 5). That a better understanding has come about of the symptoms which induce patients to seek examination for lesions in this situation is likewise true. When one considers the large bowel not as a single organ but as divided into segments according to the physiologic function, the symptoms become materially simplified.

The right half of the colon, the absorptive portion, when invaded by lesions, produces a group of symptoms revolving around physiologic disturbances. In the left half of the

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colon, the phenomena are almost entirely those of obstruction in one of its three forms.

FIG. 1. Filling defect in the descending colon, just below the splenic flexure. Carcinoma. Diverticulum in the sigmoid.

FIG. 2. Carcinoma in a redundant loop of sigmoid.

There are contributing factors which modify the symptoms in each half, such as the type of lesion, which differs materially, anatomic differences in the wall of the bowel, and the type of intestinal content, which on the right side is fluid, and on the left side is solid and formed.

On the basis of symptoms and signs, one may divide cases of carcinoma of the right half of the large bowel into three groups: (1) the group in which there is dyspepsia, cases of which are usually diagnosed as chronic appendicitis, chronic cholecystitis, or intestinal indigestion; (2) the group in which there is anemia, and (3) the group in which the growth is accidentally discovered.

FIG. 3. Large polypoid carcinoma in the cecum.

Concerning the first group, it is unfortunate and not to the credit of the medical profession, that as many of these patients are operated on for chronic appendicitis or chronic cholecystitis, and a pathologic lesion in the cecum or ascending colon discovered, as are patients with carcinomas of the rectum operated on for hemorrhoids. It is my experience that in each of these groups, one of five patients has, within the period of symptoms, been operated on for one of the two lesions mentioned. The number of cases of carcinoma of the right side of the colon that falls into the dyspeptic group is large and often the

condition is advanced before the underlying lesion is discovered. Usually, there is no mass, and from the very indefinite nature of the

FIG. 4. Diverticulosis of sigmoid and descending colon. Extensive spastic filling defect in the sigmoid. Diverticulitis.

FIG. 5. Extensive filling defect almost obliterating the lumen of the cecum and ascending colon. Hyperplastic ileocecal tuberculosis.

symptoms, roentgenologic examination is not sought and the diagnosis is unsuspected frequently until exploration.

The second group, in which the syndrome of profound anemia is the outstanding manifestation, and is not associated with visible loss of blood, but is characterized by profound weakness and loss of weight and strength, is likewise relatively large. The characteristic lack of visible loss of blood with profound anemia immediately causes one to confuse the picture with primary anemia. As a matter of fact, there is a great deal more reason to distinguish between primary anemia and carcinoma of the cecum than there is between pernicious anemia and carcinoma of the stomach. So common is this blood picture and so confusing is it that in the differential diagnosis, one should always eliminate carcinoma of the cecum when there is any question of the anemia being secondary. The exact explanation of this type of anemia is not clear, but it may be due to a perverted function of the mucous membrane which impairs it to such an extent that the toxins from the broad, infected surfaces of the carcinoma are absorbed.

In the third group, a mass or tumefaction is accidentally discovered in the right iliac fossa which on further examination proves to be a carcinoma. This lesion is more common than is generally believed and, likewise, represents a type which affords the most favorable prognosis because usually it is discovered in its earlier stages. Between five and ten per cent of cases at the clinic fall into this group and are found on examination of patients who come for a general check-up without suspecting the presence of any lesion, or who accompany relatives to the clinic, or who are being examined for some reason entirely unrelated to the gastro-intestinal tract.

In the left half of the colon obstruction is the predominant feature of the symptoms. This is the result of three factors: the type of lesion, the anatomic conformity of the bowel, and the type of bowel content. Malignant lesions of the left half of the colon differ materially from those of the right half. In the left half the growths tend to encircle the lumen of the bowel. In the right half, they are usually flat, and ulcerating, covered with

protuberances which look not unlike granulation tissue. In the left half they tend to be of the hard, scirrhous, encircling form, whereas on the right side, they almost invariably occupy the lateral wall of the colon, making an ideal site for absorption, but lacking the necessary stenosis which produces obstruction. The obstructive features in the left half of the colon result as a direct sequence of encroachment on the lumen of the bowel. Irritability of the bowel is common. Occasional upsets are noted at which time diarrhea most often alternates with periods of constipation. This change in bowel habit is a common early symptom of carcinoma of the lower part of the gastro-intestinal tract. Gradually, borborygmus and increasing flatulence develop and, as the lumen of the bowel is slowly encroached on, a picture of obstruction in one of its phases, acute, subacute, or chronic, develops. Visualization of peristaltic waves is possible only if the subjects are extremely thin, or if the contraction of the lumen of the bowel produces such obstruction as to bring about proximal dilatation.

Tumefaction is more common in the left half of the colon than in the right, perhaps because of the greater accessibility of this half of the colon, but also because of the predominance of obstructive features which dam back the contents of the bowel and produce dilatation. Not infrequently, elderly patients are able to point out definitely the site in the colon where peristalsis stops. This is an old sign, well recognized by senior surgeons and is responsible for the aphorism that increased inability to move the bowels of elderly patients without cathartics is highly suggestive of carcinoma of the large bowel. To this might be added the fact that almost invariably carcinoma of the large bowel which causes acute obstruction is situated beyond the middle of the transverse colon.

Blood in or on the stool is usually present, but not until the mucous membrane of the bowel is ulcerated; in many cases it is not an early symptom. I believe that bright red blood should be present, or repeated tests for occult blood should give positive results before the condition is considered significant. Bright red blood in or on the stool is pathognomonic of lesions of the rectum, not of the colon. Occult blood is more significant in the diagnosis of unusual tumors of the small bowel than of lesions of the colon. Cases are frequently seen in large charity or city hospitals in which carcinoma of the colon produces sudden, complete obstruction of the bowel without premonitory warning. Although this may be due to a volvulus, it is usually due to obstruction of the lumen by plugging of a contracting carcinoma or by intussusception or swelling of an inflammatory process superimposed on a malignant lesion. The usual type of obstruction which, in my experience, occurs in about a half to two-thirds of the cases of carcinoma of the left half of the colon, is chronic, or at least, only subacute. Obstructive phenomena, associated with tumefaction, borborygmus and blood in the stools, are always suggestive of malignancy of this part of the colon; this diagnosis is easily confirmed by roentgenologic examination.

To sum up the diagnostic characteristics of carcinoma in any segment of the colon, the most significant early symptoms are: (1) change in bowel habit, as evidenced by increased irritability, such as some type of diarrhea, usually called by the layman "mucous diarrhea," or alternating periods of diarrhea and constipation; (2) localizing pain or tenderness, not of marked severity but without a tendency to disappear; (3) profound anemia not associated with visible loss of blood, and (4) acute, subacute or chronic obstruction. When such a chain of symptoms presents itself, immediate and complete examination of the entire gastro-intestinal tract by a competent roentgenologist is imperative. One cannot deprecate too strongly the usual textbook symptoms of loss of weight, cachexia, and dehydration as being pathognomonic of carcinoma of the large bowel. They are, in effect, evidences of advanced malignancy with

possible metastasis and signposts of impending dissolution.

To the suggestive clinical history, the confirmatory evidence furnished by roentgenologic examination is indispensable. Roentgenologic examination should disclose the presence or absence of growths beyond the juncture of the middle third of the sigmoid with its lower third. In the roentgen-ray laboratory of The Mayo Clinic, an accurate diagnosis of organic lesions of the large bowel, verified at operation, has been made in more than 95 per cent in all cases observed in the last three years. The realization of this high degree of perfection in the recognition of lesions of the colon has been the result of painstaking study, not only by fluoroscopic visualization and interpretation of the films, but by recognition of other factors equally significant. To attain the highest success, accurate preliminary preparation of the colon is essential. Proper cleansing by repeated washings and purgations, leaving the colon empty, is the primary requisite. Provided the bowel is empty and the patient is able to retain the barium clysma, diagnostic efficiency is in direct proportion to the proficiency of the examining physician. It should be emphasized that for diagnosis of organic lesions of the large bowel, ingestion of the meal by mouth is not only worthless but is frequently highly dangerous, in that it is likely to superimpose an acute intestinal obstruction on a chronic one. This is not a theoretic objection to this method; it is an actual experience in practically all roentgen-ray laboratories yearly. The practice should be summarily condemned, and the röentgenologist should accept this responsibility, and in the future should recognize the importance of not administering mediums by mouth for the diagnosis of lesions of the colon.

The characteristic canalization of the lumen of the bowel may be visualized under the fluoroscope and the rough, jagged contours of its margins, associated with the firm, knotty consistence of the mass which is frequently felt, are the cardinal differential characteristics of a malignant lesion. That an accurate anamnesis and careful examination should be closely associated with the laboratory diagnostic aids, is a generalization that scarcely need be made. However, as the profession becomes more "colon conscious" and insists on the examination of the large bowel as a part of the general physical examination, further diagnostic advances will insure a higher percentage of earlier diagnoses and satisfactory extirpations.

CHOICE OF OPERATION

Technical advances in the extirpation of malignant lesions of the large bowel and rectum indubitably have kept pace with the diagnostic improvements. The recognition that the condition of most patients suffering from carcinoma of the rectum or colon is not emergent, and the patient can be advantageously hospitalized for preliminary medication, has aided satisfactory operative measures greatly. It is the practice at The Mayo Clinic, in these cases, in the absence of acute or impending acute intestinal obstruction, to hospitalize the patients for a time, varying from three to five days, during which adequate rehabilitatory and decompressive measures are instituted. The principles of decompression and rehabilitation applied in this type of case cannot be too highly emphasized. Most carcinomas of the large bowel and a great many of the rectosigmoid produce chronic obstruction of varying degree, influencing materially the selection of operative maneuver for their removal. The infection in the growth and in the pericolonic tissues accounts in a great measure, I believe, for the subsequent peritonitis from which the majority of patients of this group succumb in the hospital. By adequate decompression and the institution of rehabilitatory measures, such as transfusion of blood, instillation of large amounts of fluids and a diet high in calories, many of the unfortunate sequelae frequently encountered may be successfully combated. In addition to these measures, we have found that the intraperitoneal administration of vaccine prepared from colon bacilli and

streptococci from patients who have succumbed to peritonitis has been most desirable. I am confident that this procedure has been advantageous after employing it in a large series of cases, and although I would not urge its efficacy when employed alone, I believe that as a step in the sequence of events aimed at the increase of safety factors, it has proved its worth. It is a logical procedure to increase the patient's resistance and when used in conjunction with the other measures mentioned I feel it has enhanced the end results materially. It is employed as a routine prior to operation, and usually its administration is accompanied by a general reaction with malaise, headache, elevation of temperature and pulse rate. This usually subsides at the end of twenty-four hours.

In 1928 intraperitoneal vaccine was first used in the clinic. In a group of sixty cases of carcinoma of the colon in which operation was performed the mortality rate was five per cent, whereas in a control group of sixty cases of identical lesions in which operation was performed by the same surgeons, the mortality rate was 23 per cent. I am convinced that this huge reduction in mortality was not due entirely to the vaccine, but it is logical to assume that the vaccine played an important part. In 1931 Bargen and I reported 222 cases of carcinoma of the colon and rectum in which vaccine had been used between January 1 and October 1, 1929, and fifty-eight cases in which operation was performed in the course of these months for similar conditions but without vaccine. Eleven deaths occurred from peritonitis among the 222 cases, representing a mortality rate of 4.9 per cent, and in the fifty-eight cases there were thirteen deaths from peritonitis (22.4 per cent).

Given accurate localization and a relatively correct pathologic diagnosis of a malignant lesion of the large bowel, and having instituted adequate preparatory measures, the surgeon finds himself confronted with a situation in which two questions are paramount: when is the optimum time for operation, and if the growth is found operable at exploration, what type of maneuver offers the lowest surgical mortality compatible with widespread extirpation of the growth and contiguous tissues?

In answer to the first question, it may be said that the most satisfactory time for exploration depends on the reduction of the obstruction, if any, in the individual case. When decompression is accomplished and rehabilitation has reached its peak, exploration may be undertaken under the most satisfactory circumstances. The time of intervention is governed by certain principles of physiology and surgery which are incontestable. When one remembers that the large bowel is a bifunctional organ, that the right half of the colon is the absorptive part, that the left half is the storehouse, and that there is always infection from the normal bacterial content, it is obvious that it is exceedingly desirable that the surgeon guard against subsequent peritoneal contamination and, at the same time, remove the widest possible amount of gland-bearing tissues with the growth. The choice of operation in the two halves of the colon differs because of several factors, the first of which is again obstruction; the second, the nature of the pathologic growth present; the third, the presence or absence of local metastasis, and the fourth, local fixation and attachment of the growth to adjacent viscera or the parietal peritoneum.

If obstruction and dehydration are present, they should be combated, the patient's resistance against infection should be elevated, and his ability to withstand as formidable an extirpative procedure as is possible should be estimated. I would emphasize that the main principles ordinarily to be followed with slight deviation, are: decompression by medical or surgical means, or both; rehabilitation, and graded operations. The preliminary step usually is some type of drainage, or a side-tracking operation, if the growth is in the right half of the colon, the object of which is to reduce the infection around the growth and permit the patient's resistance to be built up for a subsequent formidable extirpative pro-

cedure. Not only does this drainage procedure frequently accomplish these efforts, but it simplifies the secondary procedure and often permits massive operations at the second stage which were judged inopportune at the preliminary exploration. In the last five years or more, it has been my practice to attack practically all left-sided lesions of the colon by multiple maneuvers, whereas in the right ileocolostomy is performed by any method in which end-to-side rather than lateral anastomosis is used, followed by resection, at a subsequent stage. In the left half of the colon, the obstructive resection, which is a radical operation, is the operation of choice provided the colon is adequately decompressed. A point I wish to emphasize is that in the presence of obstruction, this type of operative procedure should not be undertaken but rather some drainage procedure with subsequent resection and anastomosis. In any type of operation, exploration of the liver, aortic nodules, the bottom of the pelvis, and finally, the growth itself, should be made in this order so that it will not be necessary to investigate the peritoneal contents at the time of resection. Gentle manipulation of the growth, touching it most tenderly and determining from this gentle touch its mobility and resectability, is highly desirable. Infection is spread not only by manipulation of the growth, for the infection is already present in the pericolonic tissue, but sometimes an unsuspected abscess, particularly around the cecum, or in the region of unsuspected diverticulitis, may be opened by the exploring finger when least expected.

In growths of the right half of the colon, I prefer to make the anastomosis end-to-side over a clamp which I have devised for this maneuver, and then wait for four weeks or even longer before doing the resection. During this time the local conditions almost uniformly improve, the infection around the growth subsides and the patient's resistance increases; thus the whole risk of operative mortality is lowered. I especially call attention to the end-to-side anastomosis rather than lateral because I believe it is impossible to divert the fecal stream by lateral anastomosis, and since this is the most important feature of the maneuver, I think nature's method of end-to-side anastomosis, as at the ileocecal valve, is preferable. Occasionally in growths of the right half of the colon, one feels that the general picture is sufficiently satisfactory to perform resection and anastomosis in one stage. In this event, I believe decompression such as a complementary ileostomy, should invariably be performed.

The second stage of resection of the right half of the colon is comparatively simple, after ileocolostomy. It consists of mobilization of the colon by dividing the lateral parietal peritoneum, rotating the whole growth with its gland-bearing tissue and retroperitoneal fat mesially, dividing the bowel above the anastomosis and peritonealizing the raw surfaces. As I have said, if the growth is situated beyond the hepatic flexure, or more accurately, beyond the middle of the transverse colon, I believe that the preferred maneuver in every case is obstructive resection in which preliminary decompressive measures have relieved the chronic obstruction. This type of operation which utilizes all the satisfactory fundamental principles of Mikulicz operation and avoids its disadvantages, has been most satisfactory in my hands in all mobile segments of the large bowel. By accurate mobilization, ligation of the blood supply close to the mesentery and then removing all the glands and gland-bearing tissue in the immediate vicinity of the growth, it is just as radical an operation as can be carried out. One may, after removal of the bowel, make sure of the blood supply to its two ends by visual inspection. A clamp is left on the two ends of the bowel and the toilet of the peritoneum is completed, leaving the colon totally obstructed for a period of forty-eight to sixty hours. At the end of this time the proximal blade of the clamp is loosened and gas pressure opens the end of the colon, decompressing it immediately. The clamp is left on the distal end to fall off from its

own weight at about the seventh day, and the subsequent steps of the operation are completed exactly as in the old Mikulicz procedure.

Statistics of operative mortality have been materially lowered within the last decade, and their reduction probably will not proceed at a rapid pace from now onward. The hospital death rate is so intimately mixed with the vague term "operability" which has many shadings and terms of meaning to different surgeons, that it is only with great difficulty that one arrives at a satisfactory comparison of cases which are suitable for resection by different operators. The usual standards of operability hinge on the questions of whether there is metastasis to the liver; whether there is lymphatic involvement; whether local fixation to adjacent viscera or the abdominal wall preclude its extirpation, or whether the general resistance of the host has declined to such a point that extirpative maneuvers are deemed inadvisable. Occasionally there is unquestionably reason for palliative resection being attempted in the presence of metastasis to the liver for there is no doubt that death from hepatic carcinoma is preferable to the obstruction and pain which accompany irremovable growths which have been sidetracked but left in situ.

In the years 1929, 1930 and 1931, the operative mortality and operability have maintained a steady curve. The operability has ranged from 55 to 58 per cent and the mortality has ranged from 8.5 to 10.9 per cent. During these years, the average yearly number of operations was 729, 68 per cent of which were for malignancy.

It is true that patients with carcinoma of the large bowel and rectum are seeking examination at a slightly earlier stage than formerly, and yet much is to be desired from the standpoint of time. The average patient with carcinoma of the large bowel who presents himself for examination has known of symptoms for ten and a half months. Obviously, the growth has usually been present considerably longer than this and has had ample opportunity, if it be of high grade, to have broken beyond its local confines. However, there are many encouraging factors to make us optimistic in dealing with growths in this portion of the gastro-intestinal tract, both from the standpoint of increasing efficiency in diagnosis and more coördinated and better standardized type of surgical treatment. It is not too much to hope that the future will bring further achievements in this field.

PROBLEMS IN ALLERGY

J. H. Black, Dallas, Texas (*Journal A. M. A.*, July 2, 1932,) points out that in spite of the fact that the treatment of allergic conditions is fairly satisfactory, the fact remains that treatment is largely empiric. Advantage is taken of the fact that allergic persons frequently show skin reactions to their respective allergens to determine the specific allergenic substances, but there are many irregularities found in skin reactivity and the reasons for them are imperfectly understood. Treatment with the substance to which the patient is sensitive frequently produces good results, but there is still much room for argument as to the mechanism underlying the response to treatment. Some of the problems found in an attempt to explain these conditions are due to deficiencies in the knowledge of immunology in general, but some of them may be solved by careful, concerted study by the clinical investigator and the laboratory worker. In this field where animal experimentation may fail to reproduce human reactions, accurate observation of carefully controlled patients may provide the material for the solution of some vexing problems. Of these problems the author discusses the following: (1) basis for hereditary influence; (2) relationship of endocrine organs and involuntary nervous system; (3) relation of reagin to clinical hypersensitiveness; (4) reactivity of the shock organ; (5) local immunity or sensitization; (6) rate of absorption of allergen, and (7) sensitization to nonantigenic substances. These points are raised, not with the intention of disparaging the work which has been done, but to call attention again to the fact that there is a great amount to be done if work in allergy is to be placed on a scientific basis, and to remind the clinician as well as the laboratory worker that careful, painstaking observation may assist in the solution of some of these perplexing problems.

CANCER OF THE STOMACH *

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THE death rate from cancer is increasing. In 1900 cancer ranked sixth among the causes of death; in 1929 it ranked second. For the period of nine years from 1920 to 1929 the death rate from cancer increased greatly. According to the United States Census Bureau, the total deaths from cancer in 1920 were 72,931, or 83.2 per 100,000 population, and in 1929 there were 111,569 deaths, or 95.9 per 100,000 population. There were in 1920, 27,489 deaths from cancer of the stomach and liver, and in 1929 there were 37,915 deaths from cancer of the stomach and liver.

These statistics are calculated on the Registration Area, which constitutes about 95 per cent of the total population of the United States. Allowing a reasonable proportion for the remaining 5 per cent, we can see that there were fully 115,000 deaths from cancer in the United States in 1929.

According to the statistics of Dr. Margaret Warwick and of Saltzstein and Sandweiss, about 30 per cent of all deaths from cancer are from cancer of the stomach. It is seen, then, that gastric carcinoma occupies an unenviable position in the death rate from cancer. Naturally, as the span of life is being prolonged on account of the decrease in infant mortality and in contagious and infectious diseases, more individuals come into the limits of the "tropic of cancer," so there are more persons liable to have the disease with the prolongation of life. This, however, does not solely account for the increased death rate from cancer. There are still other factors that are unknown.

We know that cancer is not caused directly by a microorganism or by bacteria of any kind. It is from a lack of control of certain cells that are inducing repair following some chronic irritation. Instead of going through a formation to mature tissue, these cells seem to escape from control of the surrounding tissue and grow irregularly and without law and order. So far as we are aware when tissues can be observed, cancer never springs from primarily normal healthy tissue. There is an ulceration, crack, wart, or some growth from which it arises. It seems probable that this holds true in the stomach, though we can not observe the interior of the stomach accurately as we can the interior of the mouth or the rectum and lower sigmoid, and we will merely have to surmise that there is abnormal tissue as an origin of gastric cancer. We would be reasonably safe in assuming this, however, when we know that all the organs or tissues that are open to direct inspection show that cancer originates from some previously abnormal or diseased tissue.

The Symptoms of Cancer of the Stomach.—There are no pathognomonic symptoms of cancer of the stomach, any more than there are pathognomonic symptoms of cancer elsewhere. There are, however, some signs and symptoms that are peculiarly suggestive. The fact that cancer nowhere causes pain in the early stages, except in some bone cancers or in unusual locations, should be borne in mind. Cancer of the stomach often gives no symptoms until it is well advanced. Naturally, too, in the very early stages of the disease a diagnosis is still more difficult than later on, but it is more important to make a diagnosis early because of the necessity for complete excision.

In general the symptoms of cancer of the stomach may be divided into two groups. The first and smaller group is comprised of one-fourth to one-third of the cancers of the stomach. The symptoms have existed for

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years and apparently are caused by benign lesions such as gastric ulcer or a benign adenoma which becomes cancerous. Cancer of the stomach is more frequent in men than in women, the ratio being about one in women to two or three in men. In my experience the ratio has been about one in women to two in men. At any rate, it is much more common in men than in women.

Gastric ulcer, too, is much more common in men than in women, but it is rarer than duodenal ulcer, though gastric ulcer and duodenal ulcer often give somewhat the same symptoms.

In cases in which symptoms have existed for many years, the lesion may originally have been benign, unless the cancer of the stomach is of a low grade of malignancy. In the average case of cancer of the stomach, however, the expectancy of life is probably not over eighteen months. When the symptoms have existed for many years, they may resemble those of ulcer of the stomach with marked hunger pains coming on two to three hours after meals and relieved by food, soda or vomiting. In the early stages of cancer free hydrochloric acid is usually found in the gastric juice. A lesion near the pylorus may cause early obstruction. Miller, Eliason and Wright have called attention to the fact that benign growths of the stomach are more common than is generally believed. They have reported eight cases of their own in which there was a carcinomatous degeneration of a polyp of the stomach. In 35 per cent of all gastric polyps that they have studied, they have found that there was cancerous degeneration at the base of the polyp. The chief symptom when these tumors degenerated into cancer was hemorrhage or intermittent obstruction. The hemorrhage was slight but frequent, and often was the cause of profound anemia that resembled pernicious anemia.

In view of the fact that a large portion of the stomach is practically "silent" as far as symptoms are concerned, benign lesions may exist in the cardiac portion of the stomach or at any point along the greater curvature except near the pylorus where obstruction might occur without giving any symptoms whatever until they have degenerated into cancer. It is well known among roentgenologists that any ulcer which can be found by roentgenologic examination along the *greater curvature* of the stomach is practically always cancerous. In the lesser curvature, however, where gastric peristalsis originates and where interference with motion gives symptoms, benign ulcers are found more frequently than cancer. If there is a lesion in this "silent" area of the stomach which does not perforate, bleed, obstruct or grow rapidly or terminate in cancer, there is nothing to indicate its presence any more than one can know that there is a mole or wart on the back of his neck unless he could feel it or see it. When, however, the mole or wart becomes inflamed or bleeds or turns into malignancy and grows rapidly, he knows it is there. So when a benign lesion in this "silent" area of the stomach becomes cancerous, the symptoms may date from the time the cancerous change makes the growth more prominent. Along the lesser curvature such a lesion soon interferes with peristalsis and with the motion of the stomach, and so early symptoms appear.

Fully three-fourths of the total area of the stomach may be considered in this "silent" area; so the fact that only one-fourth of the cancers of the stomach give symptoms that indicate a preceding benign lesion can be explained by the fact that benign lesions in this "silent" area give no symptoms under ordinary conditions.

A cancer that does not originate from a polyp does not often cause gross bleeding. According to Saltzstein and Sandweiss, in only 1.4 per cent of cancers of the stomach was marked hematemesis present, whereas in about 18 to 20 per cent of peptic ulcers distinct hemorrhage occurs.

The late symptoms, such as the palpation of Virchow's glands at the root of the neck, especially on the left side, and metastases occurring throughout the chest, are, of course, terminal and are of no particular interest

except from the standpoint of post mortem observations.

When symptoms of peptic ulcer have existed for many years and change from an intermittent pain relieved by food or soda to rather constant pain, this is often significant of the beginning of cancer. Gastric analysis in cancer of the stomach may not show blood, but in many cases there is low or absent free hydrochloric acid and low total acid. In the early cases the hydrochloric acid may be normal or increased in amount. The presence of Boas-Oppler bacilli and numerous bacteria showing necrosis often indicates a late stage of the disease and is of no great significance in making an early diagnosis. When the abdominal wall is thin the tumor may be palpated. I have had one patient, (Mrs. B. H. H.), whom I operated upon for cancer of the stomach, who had noticed a palpable tumor for a year before she consulted me. After a partial gastrectomy, though the growth was quite advanced, she lived in comparative comfort for nearly three years and eventually died with metastases in the chest and axilla, and with apparently no recurrence in the stomach.

Pain, with various symptoms of indigestion such as heartburn, regurgitation of gastric juice, and eructation of gas, may occur even in the early stages.

The most reliable diagnostic test for cancer of the stomach is a competent x-ray examination. While this is not infallible, it is by far the best diagnostic measure for this disease. Any patient, particularly a man, who is thirty-five or more years of age and who gives symptoms of stomach trouble, should be considered seriously. If after a careful examination and competent medical treatment, eliminating such causes for the indigestion as improper diet, nephritis, nervous or cerebral affections, the symptoms cannot be relieved in a few weeks, the patient should be sent to a competent roentgenologist for a thorough examination. The roentgenologist should be one who has had experience in examining stomachs, not only from the x-ray plates but with the fluoroscope. If a lesion is found in the stomach and it is thought to be an ulcer, it may be treated for a few weeks medically. If the lesion is in the duodenum and is a peptic ulcer, medical treatment is the best therapeutic remedy at first because an ulcer in the duodenum rarely turns into cancer. Peptic ulcer of the stomach, however, frequently becomes cancerous.

The incidence of cancer from peptic ulcer of the stomach is variously estimated by observers, but is seems that about one-fifth to one-fourth of the cases of cancer of the stomach arise from peptic ulcer, whereas duodenal ulcer almost never gives rise to malignancy. Duodenal ulcer may be treated medically indefinitely with practically no danger of cancerous transformation. If a duodenal ulcer bleeds too much, if its symptoms cannot be relieved by medical treatment, or if there is obstruction or perforation, surgery is indicated. In ulcer of the stomach, however, due to the tendency toward gastric cancer the conditions are quite different. Thus, Dr. Wm. Gerry Morgan, an internist and gastroenterologist of Washington, said before the Southern Medical Association at New Orleans in 1931, "I feel that all gastric ulcers should be treated surgically, for many of them prove to be carcinomatous and we have no means of differentiation." I do not go quite as far as Dr. Morgan in advising immediate surgery for all gastric ulcers, but I believe if any mistake is made it would be better to consider it a surgical disease from the very beginning than to delay too long; certainly if there is no definite relief and if there is no roentgenological evidence of healing after six weeks of treatment, an excision of the ulcer should be advised.

In patients, particularly in men, over thirty-five years of age, who develop gastric symptoms when they are not accustomed to having any indigestion or trouble with the stomach, the possibility of cancer should always be considered because, as has been said, the majority of cancers of the stomach do arise when there has been no preceding long history of symptoms. In fact, this is so often true that some internists and gastroenterologists rather insist

that cancer always arises in patients who have had no previous gastric symptoms. That this is not correct, however, I know by personal experience. For instance, one patient of mine, a woman 70 years of age, had given symptoms of stomach trouble at intervals for fifteen years, and at operation had an ulcer in one portion of which definite cancerous tissue could be demonstrated, the rest being a benign inflammatory lesion. Another patient, a man 34 years of age, had had symptoms resembling those of gastric ulcer for eight years, though the symptoms changed only a few months before he was operated upon when a gastric cancer was removed. In still another case, a man of 70 years, there was a small cancer of the pylorus, and the patient gave a history of stomach trouble at intervals for forty years.

Those cases with a previous history of stomach trouble, particularly of ulcer of the stomach, should not be ignored, even though, as has been said, they constitute the minority of gastric cancers.

Cancers of the stomach differ, just as faces do, and in not more than half of them is there open ulceration. In some there are tumors, a few of them resembling fibroids in gross appearance. In others there is infiltration beneath the mucous membrane with practically no erosion of the mucosa, and in still others there are thickening and infiltration of the entire gastric wall, a process known as linitis plastica. The type of cancer that does not form an ulcer obviously does not spring from an ulcer, but may occur from some lesion of the stomach such as adenomata or growths in the mucosa or below it.

Lympho-sarcoma of the stomach also occurs, as well as sarcoma of the gastric muscular tissue, but these are very rare lesions and constitute not more than one per cent of malignancies of the stomach. Adenocarcinoma is the common variety of gastric malignancy.

Treatment.—The treatment of cancer of the stomach is excision. The American Society for the Control of Cancer recognizes as desirable only two methods of treatment of cancer or a combination of these two: one is surgery by excision, either with a knife or cautery, and the other is radiation. In many instances a combination of these methods may be advantageous. In certain cancers of the neck, as sarcoma of the neck, or in cancer of the cervix uteri, treatment by radiation either from radium or x-ray is the best treatment. In cancer of the breast frequently a combination of surgery and radiation is satisfactory. In cancer of the stomach, however, surgical excision is the only treatment. Radiation is not effective because of two reasons. Cancer of the stomach is not usually radio-sensitive. Secondly, the liver overlaps a portion of the stomach and the pancreas is behind it. These two organs are readily affected by radiation, and if a sufficient amount of radiation is given the stomach to be effective for cancer, it may cause such an effect on the liver and pancreas that death would result.

The important thing is to get gastric cancers in the early stages, though in some instances, as has already been mentioned, a palpable tumor particularly in the elderly that may have been observed for some months can be excised with marked prospect of relief and some hope of cure. Much, of course, depends upon the histologic type of growth and upon the condition of the patient.

Gastric peptic ulcers when operated upon should, if their situation permits, be treated as though they were cancers. Gastroenterostomy has a very small place in the treatment of cancer of the stomach. In most instances it affords but little relief, whereas resection if carefully done, even if there is limited metastasis in the liver and lymph nodes, will remove the cancerous mass and give more comfort than a gastroenterostomy would, without marked increase in the operative danger.

It would seem that patients are not being given a fair chance of cure in cancers of the stomach. The report of a series of 176 necropsies in deaths from cancer of the stomach by Dr. Margaret Warwick of the University of Minnesota showed that in 23 per cent, or 40 of the cases, there were no metastases outside of the stomach. In this group about 50

per cent showed perforation, and in two-thirds of these cases perforation was the cause of death.

It is not generally recognized what a large percentage of cases of cancer of the stomach die from perforation, which has ordinarily been considered as due to a peptic ulcer. In the larger series of cases of Saltzstein and Sandweiss, of 365 deaths from cancer of the stomach, resection was done in only 28 cases, or 7.7 per cent. When we consider these facts, then, that *in 23 per cent of the cases at necropsy the cancer was still confined to the stomach, and in only 7.7 per cent was there any attempt at resection, it can be readily seen that many opportunities for cure of gastric cancer have been missed.*

Even in cases that are advanced, if the general condition is fairly good, exploration will sometimes disclose that the cancers are operable and the patients can at least be made more comfortable by resection and their lives prolonged. On the other hand, if the cases can be gotten earlier the percentage of cures will be higher.

As for the type of partial gastrectomy that is indicated, the best in most instances seems to be a modification of the Billroth I. Eight years ago I began using a modification of the Billroth I type which has the advantages of uniting the stump of the stomach to the stump of the duodenum so the lesser curvature of the stomach is alined with the upper border of the duodenum. After the stomach and duodenum have been thus fixed by a posterior row of sutures, the Payr clamps on the stumps of the duodenum and stomach are removed and the posterior margins of the stomach and duodenum are sutured together. The duodenum is flared open by an incision along its anterior border for 1 inch to 1½ inches in length, and the suturing is continued. Sometimes when the stomach is not very large an actual end-to-end anastomosis can be made. If this cannot be done, the protrusion of the lower portion of the stump of the stomach is turned in by a pursestring suture and the anterior wall of the union is doubly sutured.

This method can be utilized in a majority of cases of resection of the stomach. Sometimes the cardiac end of the stomach can be mobilized by putting the hand under it and stretching or cutting the adhesions when the stump may be approximated to the duodenum. When, however, this method is impossible, the Hofmeister type of the Billroth II is considered an excellent operation. Here the stomach is resected, the duodenum closed, and the upper part of the stomach is sutured. The jejunum is then brought through the transverse mesocolon and sutured to the lower part of the stump of the stomach, somewhat after the manner of a gastroenterostomy. If the lower part of the stump of the stomach cannot be readily brought down, an enteroanastomosis is made between the two limbs of the jejunum, though this is not often necessary.

There are occasionally cases in which resection of the whole stomach should be done. In a recent case of my own there was a lesion at the pyloric end of the stomach and one farther up near the esophagus. A total gastrectomy was done. There was a fusion of the gastro-colic omentum to the transverse mesocolon. The vessels of the transverse mesocolon were injured during the operation by the clamp, though they were not actually cut. The patient made a satisfactory immediate recovery, but later developed peritonitis and died eight days after the operation. Necropsy showed that there had been gangrene at the portion of the transverse colon whose blood supply had been injured by the clamp, though the vessels had not been actually divided, and though the clamp and ligatures were removed after it was seen that the vessels were pinched.

Of course, total gastrectomy is a very formidable procedure, but the patient has no chance whatever without the operation. If there are no metastases outside of the stomach and the patient's condition will permit of it, a total gastrectomy is sometimes indicated.

In the after-treatment of these cases, the continuous intravenous administration of dextrose in Ringer's solution, usually five per

cent which is isotonic with the blood, is a great help. This can be given through a cannula and may be run at a rate of 75 to 150 c.c. an hour. It may be given for several days continuously. It provides rest for the stomach and permits the patient to be nourished and supplied with water and the normal electrolites through the veins.

Conclusion.—The hope for reducing this enormous mortality from cancer of the stomach lies, first of all, in early diagnosis and in applying the only known satisfactory treatment, partial or total gastrectomy. In patients who are upwards of 65 years of age, the operation should preferably be done under local anesthesia. In elderly patients cancer is often not of the malignant or rapid growth as in younger patients. Sometimes a growth that is far advanced and easily palpable may in the elderly be satisfactorily removed with an excellent chance of relief and some possibility of cure, though the ideal is, of course, to perform the operation in as early a stage of the disease as possible.

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WILL THIS PATIENT'S HEART STAND AN ANESTHETIC? *

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THIS is a question asked all too seldom by our surgical colleagues, and one that is of great concern, not only to the patient, but to the relatives and friends as well. With cardiac disease heading the list of reported mortality, and with about four million cardiacs in the United States, this question should have some importance.

There is no doubt a persistent difference of opinion between the surgeon and the internist about the importance of the heart in surgery. The reason for this is I believe simple, but in need of honest discussion. The situation briefly is that the internist believes he can diagnose heart disease during life, but can state only in a general way the patient's chance under operation, while the surgeon, admitting his inability to detect cardiac damage before an operation, will readily diagnose his failures as cardiac deaths, when the real cause may be surgical shock, sepsis, hemorrhage, or the existence of some intercurrent infection.

The greatly reduced mortality in modern surgical procedures may be attributed to several causes. The improvement in surgical technique, of course, is the element of greatest importance. Technique today means more than mere craftsmanship. It means a knowledge of those intricate processes which mark the resistance of the body to disease—and of those reactions which the organism shows after surgical intervention. He realizes the role shock may play in turning the scale for or against the patient, and well knows the value of pre- and post-operative care. He knows that the mere doing of an operation is not enough, and he also knows that the more safeguards he can throw around the patient, the better the immediate as well as the final outcome will be. The careful surgeon gives much attention to anesthetist and anesthetic, and type of administration, for he realizes what a large role these play in surgical success. Might I say here that let the surgeon select his anesthetist with great care, but let the anesthetist select the anesthetic. To do this properly, it will require on the part of

* Read before the Section on Internal Medicine of the West Virginia State Medical Association, at Parkersburg on June 22, 1932.

the anesthetist a knowledge of the surgical procedure contemplated, and something about the patient's heart, and often times these two factors alone may spell the difference between success and failure.

It is not to be maintained that anesthetic agents exert their harmful effect on the heart alone, but it is true that the heart's reaction to anesthesia is of great importance, and it is to a brief discussion of the cardiac problems in surgery that this paper will confine itself.

Over seventy-five years ago Snow said, "If a patient is able to undergo an operation, he will not be an impossible subject for an anesthetic," and Richardson is quoted as saying, "In general, if the heart lesion does not interfere with the ordinary affairs of life, it will not interfere with the taking of an anesthetic," and may I add my own views to a host of more modern investigators, that the majority of cardiacs stand anesthetics properly given exceedingly well. Without going into great detail, it is the opinion of Sprague, (1), Butler, Feeney, and Levine, (2) that ether is the general anesthetic of choice in most cardiacs, while in a comparison of all types of general anesthetics as compared with local anesthesia, the mortality was about the same—12.1% to 12%. It is not to be supposed that the local anesthetic was employed on account of minor surgical conditions, but more often was employed because the patient had such a grave cardiac condition that it was thought inadvisable to use a general.

To be of the greatest service to the surgeon in answering the question which is the title of my paper, the internist must ask himself several questions. First, "Is the condition to begin with, a surgical one?" There are situations not at all infrequent in which circulatory disturbances present features closely resembling an acute surgical emergency. I refer to acute coronary thrombosis with abdominal symptoms which has all too often been diagnosed as ruptured peptic ulcer, gall-stone colic or acute pancreatitis. In children especially is the surgeon apt to go wrong, and I have seen acute rheumatic fever with abdominal pain, tenderness, vomiting, and leucocytosis subjected to needless surgery and I am sure there have been many cases of tonsillitis and upper respiratory infection subjected to exploratory laparotomy. In the past year I have knowledge of a case of mumps with a mild orchitis and with slight abdominal pain, (undoubtedly due to a mild pancreatitis) with vomiting, fever and a moderate leucocytosis, in which a normal appendix was removed. Another question that might be asked, "Is the operation contemplated indicated in a person with known heart disease?" For example a man aged fifty with angina pectoris or hypertensive heart disease, has a small inguinal hernia causing only moderate discomfort, would be much better off let alone than to subject a heart already damaged to the shock of a surgical procedure. The third question is, "What added risk does a given heart lesion present to the surgical procedure contemplated, or to determine which heart conditions, if any, add to the operative risk?" To answer this last question, I must draw freely on statistics gathered from large medical centers, and I have chosen those of Sprague (1) of Boston, and of Butler (2) of Chicago.

Age.—Age is one of the most important factors in the mortality rate of cardiac persons subjected to operations. Two-thirds of the deaths in Sprague's series occurred in persons fifty years of age, or over, and Miller, (4), and Butler, Feeney and Levine are in accord when they say that the person over fifty has 14% less chance of recovery than the one under fifty.

Valvular Heart Disease (not syphilitic).—In the House of the Good Samaritan in Boston, 214 tonsillectomies were performed on children with definite rheumatic carditis without a single death, and Butler cites 147 major operations in persons ranging in age from 20 to 77 with a mortality of only 2%. We may conclude then, that patients with valvular heart disease add little if anything to the operative risk.

Arteriosclerotic or Hypertensive Heart Disease.—I am including in this group a very

large class of cardiacs whose general age is fifty or over, who have lived well, if not wisely, generally overweight with a systolic pressure over 160, and a diastolic pressure of 110 or over, and all with more or less cardiac hypertrophy. This is the group which gives us great concern and one in which our prognosis, unless we rely on existing statistics, is fraught with many pitfalls. Remember too that in this class, we find varying degrees of renal impairment and for the sake of brevity, the figures for nephritics are included in this group. The mortality figures for this group average 19.7%, which should call for a great deal of caution on both the part of the internist and surgeon in doing anything but strict emergencies on this class of patient, not forgetting that this figure must be added to the known mortality of the surgical procedure contemplated.

Cardiac Irregularities.—In this group are included mainly auricular fibrillation which may be either permanent or paroxysmal, auricular flutter, and paroxysmal tachycardia. Fibrillation is the heart condition we meet more often in thyroid surgery, and therefore, we have very good figures on the mortality rate. Of all the irregularities of the heart, auricular fibrillation forms about sixty per cent. In a study of 87 cases at the Massachusetts General Hospital including all types of major surgical procedures, only one death could be attributed to the heart, and Willius of the Mayo Clinic reported a series of 104 operations for exophthalmic goiter with auricular fibrillation with an increase in mortality of only 1.2%. This low mortality is, in my opinion, due to one factor alone, close coöperation between surgeon and internist in handling a recognized cardiac condition. Surgeons frequently diagnose "acute dilatation of the heart" as a common postoperative complication (3) but Levine as far back as 1920 definitely proved that all the cases he studied were really ones of abnormal auricular mechanism, mainly paroxysmal auricular fibrillation and paroxysmal auricular flutter.

Coronary Thrombosis, Angina Pectoris and Syphilis.—In my first sub-head, valvular heart disease, syphilis was omitted though, of course, syphilis produces valvular lesions, but as they occur most often in the aorta, they had best be considered here with the two other main aortic cardiac lesions. We all know that patients suffering with angina or coronary occlusion as well as with aortic insufficiency, are all liable to sudden death, hence our statistics are very unreliable. In a total of fifty cases gleaned from the literature where the diagnosis was made prior to operation the mortality was fifty-one per cent. With this high known mortality are we many times justified in advising operations, even very minor ones, on this class of patient?

Congestive Heart Failure.—This is obviously a serious condition whether surgery is contemplated or not, and while operations are rarely suggested in these patients, this condition quite often develops following operations. Patients with mild degrees of myocarditis as evidenced by rapid pulse, slight enlargement, dyspnea on exertion, muffled first sound and orthopnea are frequently operated upon. An examination by a competent cardiologist will, a great many times, avoid the onset of heart failure by a few timely suggestions. A few days rest in bed before operation and the proper posture during operation together with the proper anesthetic will more often than not avoid post-operative decompensation. In patients with hypertension or with myocardial degeneration it is always an advantage to maintain the blood pressure at the pre-operative norm if possible and ether is the anesthetic of choice as you get less blood pressure elevation with it than you do with gas-oxygen, provided it is properly given. With gas-oxygen if re-breathing is allowed or cyanosis occurs for a period of time the rise in blood pressure may be considerable. The posture of patients with decompensated hearts is very important. Orthopneic as they are such patients cannot be placed in a recumbent posture for any length of time and should never be placed in the Trendelnburg posture as this causes a great rise in blood pressure. Surgeons should forego any technical advantage of position in

these patients. The mortality for this group of patients averages 33.3%.

Sprague, of the Massachusetts General Hospital, in analysing twenty cases of sudden death during operation in persons with no recognizable heart lesion and all in young adults could find no demonstrable cause of death in ten cases. It is striking that in all but one the operation was classed as "minor" and there was one death each following the use of the following anesthetics: novocaine, novocaine and cocaine combined, anesthetol, and spinal novocaine. He concludes that unexpected death on the operating table is more common in young people without heart disease than it is in older persons with heart disease.

I cannot close this paper without reference, if only briefly, to two surgical conditions in which the heart may be very badly damaged that are greatly benefited by surgery and in a way show us the way of treating the known cardiac in which surgery is contemplated. I refer to thyroid and prostatic disease, the former occurring most often in young or middle aged adults, the latter in the last decades of life. A series of 500 consecutive prostatectomies gave a mortality of only 4.6% and a similar number of thyroidectomies quoted by both Willius and Lahey (5) gave a mortality of 3.6%. These figures in a way sum up the purpose of this paper in showing the definite result that can be obtained by proper pre- and post-operative care, and the good results that may be expected by close coöperation between surgeon and internist.

Summary and Conclusions.—The cardiac patient on whom surgery is contemplated offers special problems that can be handled successfully only by close coöperation between surgeon and internist.

Any operation, major or minor, under local or general anesthetic, is not without danger. Comparing the apparently normal heart with the one known to be damaged, the latter has the better chance of survival, as the heart condition is recognized, and no chances are taken.

Finally, to quote Dr. Ochsner (6), who, 27 years ago, in an address before the College of Physicians of Philadelphia, said, "I think it would be unfortunate should surgeons receive the impression that the patients suffering from heart disease are especially safe. I believe they are safe because they are especially unsafe." From my experience I should be inclined to believe with this statement and so long as surgeons consider the cardiac patient "especially unsafe" their future in the hands of the surgeon is relatively bright.

1. Acute dilatation of the heart rarely if ever causes death post-operatively.

2. Persons over fifty have 14% higher mortality than those under fifty.

3. Valvular disease fully compensated may be disregarded except syphilis and mitral stenosis.

4. In the final analysis, the myocardium is the determining factor in mortality.

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LABORATORY SERVICE WITHDRAWN

Following publication of the report of the A. M. A. Chemical Laboratory relative to its survey of the urine examining service conducted by Montgomery Ward & Company many physicians wrote to the firm asking for an explanation of this project. In reply a letter by the president of Montgomery Ward & Company has been sent to many physicians and stockholders in which it is stated that the urinalysis service has been discontinued. (Jour. A. M. A., May 21, 1932, p. 1813.)

CORONARY THROMBOSIS

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CORONARY THROMBOSIS with the resultant cardiac infarction seems to be on a definite increase. It has been noted to occur frequently after mild cases of influenza. It is remarkable that a greater number of cases has been noted in persons of young and middle life and that many victims have never had a severe illness.

Franks suggests that a latent infection, possibly a bacterium not yet recognized may be the cause of thrombosis. With all the research on the subject there is still a very incomplete understanding of the formation of the thrombus. Aschoff gives three chief causes. First, hindrance to the blood flow; second, injury to the vessel walls; third, changes in the blood fluid.

Sudden death in a patient previously well or in one who gives the history of attacks of angina is usually due to cardiac infarct. If the block occurs rapidly or too large a branch is occluded, death may ensue very quickly. Where the blocking is more slow or a smaller vessel is blocked, recovery from all symptoms may occur.

Prognosis seems to be better in the younger subjects. While coronary infarction occurs in patients from forty to sixty years of age, the usual range is fifty to sixty. The patient's chance of recovery does not seem to be influenced by the severity of the pain, but the longer it endures and the more resistant it is to treatment, the more unfavorable the outcome.

William D. Stroud advances the hypothesis that coronary occlusion is the product of a hyper-irritable vascular system acted on by one or more of certain factors which he terms "necessary environment." Under this environment he includes such things as frequent emotional upsets, infections, products of improper diet, insufficient elimination, excess of nicotine, tobacco, coffee, and tea, diabetes, excessive or prolonged physical effort and nervous tension. All these factors, no doubt, have their influence on the products of a suitable field for the causation of an attack of coronary thrombosis.

Cardiac infarction results from the obstruction of a branch of the coronary artery. This obstruction may be due to embolus but is most commonly caused by degenerative diseases of the coronary artery. The obstruction usually takes place in the vessels which are greatly narrowed. The narrowing may be gradual which in time provides a collateral circulation developed either by gradual dilatation of small and anastomosing arteries or an opportunity for the veins of Thebesius to increase their function.

SYMPTOMATOLOGY: The most marked and important symptom is pain; sudden, severe, and persistent. As its associations the patient goes into a state of collapse, as a rule, with cold perspiration breaking out over the body and there is an impending sense of death. The pain may be in the cardiac region or even suggest gastric disturbance. In fact, this suggestion of gastric disturbances is so common as to often cause operations for acute abdominal conditions for there is often associated nausea and vomiting and belching of gas. The pain may be located in the right or left hypercondriac region. Change of position does not cause a relief of pain. The patient is usually pale and is practically never cyanosed.

Cardiac thrombosis or infarct may be differentiated from angina pectoris by the following findings: Angina pectoris usually occurs during or following exertion while cardiac infarct may occur during rest. Pain in the latter may occur in the substernal region or even epigastrium while in angina the pain radiates down the left arm from the sternum. In infarct the duration of the pain is even

hours or days, being much longer than in angina and shock and dyspnea are usually present. Nausea and vomiting are very common; the pulse is small and rapid, and in the first stages there is fever, 100 to 101 degrees, with leukocytosis ranging from ten to twenty thousand. One of the most pathognomonic signs is a sudden and rapid falling blood pressure.

The Electrocardiogram may or may not be diagnostic. When changes are had, there is an inversion of the T wave. It is not advisable often to take an electrocardiograph tracing on these patients as it is usually dangerous to move them to a place where such a tracing can be made.

Treatment of coronary thrombosis may be divided into three stages. In the stage of onset, pain, shock, and collapse are the most prominent symptoms and in this stage Morphine in large doses is indicated, starting with one-half grain and followed by a quarter of a grain as often as necessary until the pain is relieved. To combat the shock, hot water bags and warm blankets should be applied. To counteract the sudden falling blood pressure adrenalin in rather large doses or sympatol, a derivative of adrenalin which has longer action and less toxicity, may be given.

In the intermediary stage, after the pain and shock have subsided, alcohol and dextrose are the best aids to treatment. Glucose may be given intravenously in fifty per cent solution, ten to twenty c.c. By no means should gastric lavage be done to combat the abdominal condition as this is decidedly dangerous. It is a mooted question whether or not digitalis should be given in these cases. Where there are distinct signs of cardiac failure as shown by rales in the chest and other signs of cardiac insufficiency, Christian advises the use of digitalis. He considers caffein in doses of five to ten grains intravenously or intramuscularly as the best drug to be used in this stage.

For the prevention of auricular fibrillation, quinidin has been recommended in one-tenth of a gram twice a day. The immediate administration of oxygen is very beneficial and often a life-saving measure.

In the third stage or that of convalescence the patient should still be kept in bed until the leukocyte count is normal. Dextrose should be administered intravenously. Dehydration should be prevented by intravenous injections and the diet should contain relatively large amounts of carbohydrates. Milk should be avoided as it tends to increase the gastric discomfort.

In diabetic patients with acute coronary thrombosis insulin should be given with great care. It should be discontinued unless the blood sugar becomes excessively or dangerously high. It makes the pains more severe and attacks may even be precipitated by it. Coronary thrombosis has become exceedingly common as a pathological manifestation among diabetic patients who die of cardiac complications. Lavine states that diabetes is a common cause for coronary thrombosis. He quotes a group of one hundred forty-five cases of which approximately twenty-three per cent showed glycosuria. From published statistics it appears that diabetes is a prominent etologic factor in the production of arteriosclerosis.

Prior to the introduction of insulin, coma was a most common cause of diabetic deaths. Since insulin, coma has become an almost preventable cause of death, but, instead, it has been accused of being responsible for some of the cardiac deaths in diabetics. Clinically and experimentally it has been shown that insulin shock and hypoglycemia cause heart pain. It should be avoided in the presence of any form of myocardial involvement.

Glothner maintains that acidosis and rapid lowering of the blood sugar level with insulin play contributory parts in producing mortalities in coronary thrombosis. The blood sugar in a myocardial patient can be maintained at a higher level than normal with a greater degree of safety than in an uncomplicated case of diabetes.

In a recent article in the May 14th number of the *Journal of the American Medical*

Association, Strouse and others point out that there is a deleterious effect of insulin hypoglycemia on the heart and a distinct risk incurred by insulin shock in older diabetics with cardiovascular disease.

To quote, "It is hard to explain why it is so difficult to frighten or cajole such a patient into following a diet strict enough to maintain his blood sugar at a level ordinarily considered normal." He concludes, "Increasing incidence of heart disease as a cause of death in diabetic patients should serve as a warning that the needs of the impaired myocardium must not be forgotten in efforts to control the metabolic manifestations of diabetes."

UNDULANT FEVER *

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SYNONYMS.—Malta fever; Mediterranean fever; goat fever; slow fever; mountain fever; and other names depending upon geographical location.

Definition.—A specific fever, septic in type, and characterized by a very indefinite undulatory course, with little or no symptoms in some animals affected, while in others we find a very severe type, which sometimes results in death.

History.—It is probable that undulant fever was known to Hippocrates, and described by him as slow fever continuing many months. It certainly existed along the shores of the Mediterranean many hundred years. Numerous investigators spent months in experimental research, all appear to have recognized the condition, but the causative organism was not discovered until 1886, by Bruce. He discovered what he decided was a micrococcus, and called it M. melitensis, and demonstrated his discovery by reproducing the disease in monkeys by innoculation. In 1897 the claim was made that the disorder could accurately be detected by the sero-agglutination method. This means of diagnosis was accepted, and is yet depended upon in the attempt to eradicate the disease from milk-producing animals, but while much may be said in favor of agglutination there is a question as to its value as a diagnostic agent in man, for it has been proven that the serum of persons absolutely free from the organism will agglutinate the so-called micrococcus—even in high dilution.

Geographical Distribution.—For years it was thought that undulant fever existed only in countries where goat milk was used for human consumption, that only the goat harbored the germ, but more recent evidence shows that other animals are subject to the disease, and that no country is exempt, and that the germ may be disseminated in various ways other than by the milk of goats.

Etiology.—M. melitensis, apparently unquestionably a bacillus, appears in irregularly parallel groups, and occasionally forms short chains. This minute bacterium appears coccoid in smears from agar cultures, in broth cultures assuming the form of a short slightly wedge-shaped bacillus, resembling B. influenza. It is easily stained with the ordinary dyes and is decolorized by Gram's method. It is found in the spleen, liver, kidneys, lymphatic and salivary glands, and in the blood, urine, bile and milk. It may be isolated from the feces. The organism is very resistant, may live three months in dust, and one month in either fresh or sea water. The usual entry into the body is through the digestive canal.

Pathology.—A true septicemia exists, with swelling and softening of the structures involved. The blood shows hemolysins, agglutinins, and specific immune bodies. Post mortem shows extensive congestion and swelling of other organs—especially the liver.

* Read before the Fayette County Medical Society, May, 1932.

Symptoms.—The period of incubation is usually from ten to fifteen days. The onset is characterized by malaise, chills, cephalalgia, anorexia, muscular pains, insomnia, and marked weakness. At first the temperature may be from 99 to 100 F., but rises higher each evening until it reaches 103 to 105 F. with a pulse 85 to 95. At this stage the pain is very marked, the joints become involved, and the patient suffers great discomfort. Constipation is usually present, although diarrhea may occasionally be found. These symptoms exist for about two weeks, then the temperature falls to normal. The patient begins to eat and feels well with the exception of marked weakness. Improvement, however, is of short duration. In three or four days relapse occurs. Each attack leaves the patient weaker, and anemia more pronounced. Gastric symptoms are common, cardiac murmurs, painful spleen, bleeding gums, orchitis, neuritis—especially sciatica—and inflammation of the parotid glands may be noted. Asthenia becomes pronounced; impaired memory, neurasthenia, delirium, and phsychic disturbances are not uncommon. In severe cases cerebral vascular spasm may be observed, and speech may become difficult. The disease may persist for months—even two years or longer. The agglutination test has been positive for some years after recovery.

The special object of the writer in selecting this subject is to impress upon you the necessity of devoting time to study, and being on the lookout for undulant fever, which is no longer confined to the Mediterranean coast, but is found distributed throughout the civilized world. I would also invite your attention to recent laboratory reports from South Carolina Public Health Department, and the United States Hygienic Laboratory, dealing principally with agglutination as a means of diagnosis in undulant fever.

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To whom due credit is acknowledged.

SODIUM IODIDE IN THE TREATMENT OF HERPES ZOSTER*

By HOWARD T. PHILLIPS, M.D., and WM. J. MORGINSON, M.D.
Wheeling, West Virginia

THE term herpes comprises two conditions, herpes simplex and herpes zoster, which, because of their many similar symptoms, are generally considered together for discussion. Herpes simplex is an acute inflammatory affection characterized by the formation of pin-head to small pea-sized, grouped vesicles and occurs about the face or genitalia, herpes facialis and herpes progenitalis. About the lips, it is the ordinary fever blister or cold sore but may occur as one or more clusters over the cheeks, nose, chin and buccal mucosa. The eruption is generally preceded by a feeling of heat and burning. The vesicles are seated on a mildly inflammatory base and show no tendency to spontaneous rupture. As only the superficial layers of the skin are involved, there is no resulting scarring. The lesions generally regress in four or five days. About the glans, pepuce and vulva, the vesicles are usually ruptured with the resulting excoriated surfaces frequently suspicious of chancres. There is often a tendency to recurrence, sometimes again and again in the same location.

Herpes zoster is an acute inflammatory disease characterized by the appearance of several groups of vesicles on slightly elevated and inflamed areas of unilateral distribution and corresponding to the cutaneous course of a nerve trunk. There is often more or less neuralgic pain preceding the eruption, through the duration of the disease and frequently for several weeks following the regression of the lesions. There may be a mild fever, chilliness and malaise. Suddenly, sev-

* Read before the Staff, Ohio Valley General Hospital, Frebruary 9, 1932.

eral hyperemic and inflammatory patches appear and are soon surmounted by irregularly grouped papules and vesicopapules. In zoster the deeper layers are involved and there is scarring. The lesions increase for five to ten days until the entire distribution of the nerve is involved. Depending on its situation, the eruption is labeled zoster supraorbicularis, zoster brachialis, zoster pectoralis, zoster femoralis, etc. The patient diagnoses the lesion about the trunk as "shingles" and zoster in any region is commonly called "shingles." When the ophthalmic nerve is involved, vesicles on the cornea may result in scars often impairing vision and sometimes producing blindness, complete destruction of the eye, pyemia, meningitis and death. The eruption is self-limited, the vesicles dry-up in two to five weeks and a recurrence is extremely rare.

The specific etiology of herpes is unknown. Herpes facialis is associated with other diseases, as colds, fevers, lung infections, malaria and digestive disturbances. The progenital type seems to be excited by irritants as vaginal secretions, gonorrhea, a long prepuce, etc. Herpes zoster occurs in all ages and is most common during the later autumn, winter and early spring months. It sometimes follows the administration of arsenic. There is evidence of infectious origin, possibly a filterable virus involving the posterior spinal ganglion. European and a few American dermatologists seriously consider the relationship of zoster and varicella as epidemics of chicken-pox on occasion seem to follow zoster eruptions. It is said both give identical complement-fixation reactions.

Since the cause of herpes is not known, its treatment is necessarily empirical. In herpes facialis, the possible precursory cause must be investigated and eliminated. It is an axiom that salves should not be used on these lesions but preferably mild astringents as spirits of camphor, colognewater, one or two per cent zinc sulphate lotions, etc. After the crusting stage, ointments, as one per cent ammoniated mercury or two per cent yellow oxide of mercury, may be used. In herpes progenitalis, cleanliness is of paramount importance and is best accomplished by boric acid and zinc sulphate washes. In herpes zoster, various mild sedatives for the neuralgia are necessary. Externally, the sole aim is protection of the parts. Incision of the vesicles frequently relieves the pain produced by their tension. Further than this, mild antiseptics as boric acid or zinc oxide dusting powders or calamine and zinc lotions give the necessary medicinal relief.

However, the pain of herpes zoster is the one factor requiring relief. Recently Dr. E. Wood Ruggles, of Rochester, New York, read a paper before the Fifty-third Annual Meeting of The American Dermatological Society (Arch. of Dermat. and Syph., March 23:472) advocating the apparent specific effects of sodium iodide in herpes zoster. He is modest and does not claim any originality for the discovery although no reference to its use could be found in medical literature. In seven cases, sodium iodide relieved pain and seemed to diminish the advance of the eruptions of the lesions. As he says, the ordinary effects of the iodides are not germicidal but are supposed to cause lysis and release of bacteria and to promote resolution of diseased tissue. However, in some conditions, when administered intravenously, they appear to have a direct action, as in blastomycosis, actinomycosis and sporotrichosis, for which they may be considered almost as true specifics.

Under our direct observation and on our recommendations, we have seen sodium iodide give almost phenomenal relief in eleven cases of herpes zoster and one case of herpes simplex. Apparently it is non-toxic as the patients ranged from twenty-four to seventy-six years of age and no reaction of the slightest degree occurred. The drug is introduced intravenously in two gram or thirty-one grain doses on alternate days for five to seven injections or until relief is obtained. Usually the pain diminishes after the first treatment and the lesions seem to be aborted. This empirical suggestion is offered for further clinical trial and treatment.

A HODGE-POGE ON ENDOCRINOLOGY *

By C. H. MAXWELL, M.D.
Morgantown, W. Va.

"ENDOCRINOLOGY—the most recent Fairy-Child of Medicine," is what Smith Ely Jelliffee calls it. But endocrinology has a far greater bearing in straightening out many obscure points in medical science which have baffled the internist and surgeon for a long time, than has the work of fairies.

I had noticed that many of us are lacking in knowledge in the recent progress made in the study of the interrelation of the glandular secretions to the physical and mental welfare of the body. That an imbalance of these glandular functions is the cause of many palpable disease conditions, and many obscure conditions which have baffled the best internists and surgeons. That we have treated these conditions without having the least idea what has caused them. This lack of knowledge generally prevalent among the vast majority of the medical men, especially the older ones, induced me to try to call attention to this condition, even if done in a hodge-podge manner, hoping thus to start some of us to looking deeper into the conditions which bring many to our offices month after month or year after year with little or no permanent improvement. I did not expect to offer anything new on endocrinology, but hoped to stir up the alert minds to look deeper into this interesting and progressing branch of medicine to the end that this knowledge would be helpful to a great many people who are now laboring under a handicap that is capable of being removed.

Our program committee consulted me about the year's program. I told them I would give them a paper during the year. They assigned me for an early paper. Some men can prepare a paper over night, but I find it requires a great deal of work for me to prepare a paper which is profitable and entertaining. In this particular case I interviewed, personally or by mail, fully one hundred medical men of the state, hoping to find out just how this developing subject is looked upon by the men and institutions in actual practice. The information gleaned was of various sorts, all interesting.

The most unique one was by Dr. S. H. D. Wise of Parkersburg. His answer was typical of many others, but expressed in a manner and style peculiar to the man himself. Here it is:

> Your request calls to mind the talk given to us by the prexie when we were leaving medical school. He was telling us that we would sometime be called upon to give expert testimony in court. He said: "Now when you are called upon to give expert professional testimony, just call it an idiosyncrasy."
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> This advice was carried out by the doctor, and worked well until the judge said to him:
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> "Doctor, explain to the jury just what you mean by idiosyncrasy."
>
> "Judge, you explain it so that it will get before the jury in proper form," said the doctor.
>
> But the judge insisted that the doctor explain it, whereupon he said:
>
> "It is from two Greek words, 'idio,' meaning, 'I don't know,' and 'syncrasy,' meaning 'a damned thing about it.'"

That was Dr. Wise's answer to my request for pointers for my paper.

Fully half the answers expressed the same idea, but couched in a little different language. These doctors and I were riding in the same boat, but I was particularly careful not to rock it, for we all would have been further soaked in these idiosyncratic waters.

Yet all these men who have the idiosyncrasies of Wise are the first ones to use insulin, fibrogen, pituitrin, and thyroxin when indicated. Yet they claim gross ignorance about glandular secretions. They know a great

* Read before the Monongalia Medical Society, March 1, 1932.

deal more than they pretend to, but I feel sure that most of us could easily acquire knowledge by a little study and observation which would greatly benefit our patients and ourselves.

Here are some of the many aids given in reply to my "questionnaire."

Dr. C. O. Henry, ex-president, of Fairmont, says: "Permit me to say that I do not know anything about 'Internal Secretions,' and can give you no points."

Dr. George Jeffers, ex-president, of Parkersburg, says: "I feel that I am inadequate to the occasion of giving you any information as to the mysteries of the internal secretions. However, this subject is fascinating to me.

"In the last fifteen years I have treated a great many cases who were deficient or were suffering with unbalanced endocrines. I believe every one agrees that the thyroid is the predominating gland and that the pituitary and the adrenals are the next two most important in holding the human machinery in balance. Of course, they all play their part in our life's drama. It is strange that the uses of these small glands were not discovered years ago.

"In the treatment of the various types of neuroses and psychoses connected with irregular menstruation, menopause accompanied with neurasthenia, subnormal temperature, pulse and blood pressure, muscular exhaustion, better results are obtained combining two or more of the endocrine products. In fact, I find in the great percentage of my cases a more marked improvement when I use the combination formula. In cases where you need a galactagogue, in defective children, in chronic asthenic condition with deficient oxidation, and following acute infection, I find combining two or more of the endocrine products gives much better results. In thyroid disturbances, dry skin, stiff and dry hair, I like the thyroid given alone in small doses over a longer period of time.

"I am now treating a case of double cataract and I truly believe I am getting a slight improvement. Dr. Lankford of San Antonio, Texas, took organotherapy in his own case for a number of years with marked improvement. Dr. Lankford was told by one of the best men in Chicago that he would be blind in a few years. Organotherapy is worth studying and I believe will be more successful in the future if we persist in its use."

Dr. Barksdale says: "Concerning the matter of internal secretions will say that I have never experimented with any other than the extracts which are of established clinical value. The following are a few jottings that I would consider and enlarge upon if I were writing a paper.

"Pituitary extracts—as applied to the control of diabetes insipidus. I have been able to control distressing day and night polyuria. Other side effects of this extract the abdominal distension in pneumonia. In pneumonia I recall one case the distension was so great that it seemed the patient could not "make it" and an injection of pituitrin followed within ten minutes by an enema completely changed the picture.

"Cortican, in treatment of Addison's Disease. While not of much practical interest at this time is certainly of great scientific interest.

"The matter of thyroid is familiar to all of us. I should stress the rule that no backward or feeble-minded child should be despaired of until thyroid has been thoroughly tried out. I had the embarrassment of calling a child a Mongolian idiot who was later found by some one else to be a hypothyroid.

"In the matter of adrenalin, its dosage and application in allergic diseases including shock might be stressed. I should emphasize the fact that insulin has not been used as freely as it should be. Its use in malnutrition with a high carbohydrate diet is of value. The main point I would stress, is the mysterious fear that some doctors have of handling it. Ten units a day can be handled by the non diabetic with perfect safety.

"I hope these few sketchy remarks will be of some value. I have not touched on the sex glands. I do not believe they are of

established merit; the same applies to kidney, prostate, and others."

Dr. Snyder, of Weston, Councilor of the Third District, says: "I do not know much about glandular therapy. Adrenalin is a good hemostatic. In asthma, hypodermically, it is very good in stopping and relieving much congestion.

"Nephritin is the remedy par excellence in nephritis and degenerative changes in the kidney. In menorrhagia I know of no remedy that gives such results as hormotone, stopping the flow, improving nutrition and general well being.

"I would not want to practice obstetrics without pituitrin. Given with intelligence, it is one of the best known remedies for the obstetrician.

"Testicoids for older men who have it in their heads and not in their pants will help solve the problem for them in a few weeks.

"Ovacoids in frigidity and sterility of women is very efficient.

"Mammary substance as a galactagogue is very efficient.

"Nuclein is an excellent remedy in faulty nutrition. If pepsin improves digestion, why not a kidney substance to improve kidney disease?

"Liver and spleen to improve the blood and general animal conditions.

"We have merely scratched the surface, in my opinion, in glandular medication. Further investigation will open up new vistas of knowledge in this field that will be of untold benefit to humanity."

Dr. Biern gives these terse observations:

"Hypothyroidism—excellent results with the use of intravenous thyroxin, poor with oral administrations.

"Hypo-ovarism—excellent with injection preparations. None with oral.

"Pituitary—good results in three cases with oral administration showing Lorraine type of infantilism. Two cases under care for alopecia.

"Hypogonadism—no results with any type of treatment."

Writing to Dr. Lantz for some points for this paper I received this report from his wife: "Dr. Lantz has been very seriously ill with angina pectoris since September 23, with no prospects of being any better."

Nobody knows the cause of angina pectoris. A spasm of the coronary arteries may be the cause. Occlusion may be a cause. Inflammation of the aorta may be, also. An overloaded stomach may press against the heart which has coronary atheroma and bring on an attack. Over exertion forcing the heart to overwork brings on an attack. A cold northwest wind often brings it on. Nervous and mental excitement brings it on. So no one knows. Then while we are theorizing, why not put the cause to an imbalance of the endocrines? No one can disapprove it, no one can prove it. So we will let is rest at that.

Quoted from Dr. Albert H. Hoge:

"We are inclined to think of all cases suffering from lack of thyroid secretion either as one of myxedema or cretinism. This impression probably dates back to our student days, when we were shown only the advanced cases. As a result, a great many physicians rarely think of a hypothyroid state except in people who are very obese, sluggish or lazy, having dry dead-like hair, scaly skin, with marked pigmentation, and possessing a low mentality.

"That various degrees of the hyperthyroid state exist from the very mildest form to the most severe is not questioned. It should be apparent that various degrees of lowered secretions of gland also exist.

"Possibly no branch of medicine offers a more fertile field for wild speculation and hasty conclusions in the mind of the enthusiast than does some phase of deficiency of the glands of internal secretion.

"In thyroid deficiency the people may, and usually do, have a great variety of symptoms, although most of them have certain things in common. The most important are:

1. Easy fatigue and exhaustion.
2. Tendency to contract infections that do not respond to treatment.

3. Mostly females.
4. Generally they are undernourished.
5. Rarely do they eat breakfast.
6. Seldom are their feet and hands warm regardless of weather.
7. Their speech is characteristic, being rather high pitched; the tone never changes. They talk incessantly.
8. They usually have a lowered basal metabolic rate.
9. They all improve upon administration of thyroid.

"With very few exceptions, our cases of thyroid deficiency have given a family history of goiter as far back as one to three generations.

"We have been very much interested in the relationship between acute infectious diseases and thyroid deficiency. In a study of the histories of our cases for the past nine years, we find sixty-seven proven non-operative cases. Fourteen of these had perfectly good health until the date of some infectious disease, never being able, however, to regain their strength and endurance until after the administration of thyroid. No cases were accepted as hypothyroids unless this condition of poor health had existed for more than one year. The real cause, however, is unknown. In the light of our present limited knowledge, in regard to such matters, it would seem that infection offers the most reasonable conjecture.

"Symptoms: These patients seldom present well-defined symptoms. They have drifted from doctor to doctor, with many different diagnoses. They are classed as neurasthenics, neurotics, and chronic complainers. The one outstanding symptom seen in all cases is easy fatigue. Many are teachers, clerks, or stenographers who find it very difficult to complete the whole day's work without driving themselves to it. Constipation is always present. Rarely do these people eat breakfast."

Dr. A. A. Shawkey says: "All has been quiet along the 'Endocrine Front' for some time. Not so many cases and no special investigation. There are always the mild cases that keep one wondering if they are endocrine, many of whom would perhaps go through life on a higher intellectual plane and achieve mental activities if their conditions were understood and proper treatment given.

"It is wonderful to see a sweet little girl, beginning to develop the thick tongue, the dull look, the slowing mentality who, with well-directed treatment with gland substances or extracts, again takes on her natural appearance—bright, alert, normally active, both physically and mentally—and go on to normal childhood, and perhaps to normal adult life. Many of these do not require constant treatment (like the Cretin), but after a time the endocrines seem to become rejuvenated, take on normal growth and development both physical and mental, and continue so right along.

"In recent years medical literature has been rich in reports of studies and investigations of birth injuries, hemorrhage of the new-born, congenital lues, congenital disturbances of the endocrine system, etc.

"More than three thousand articles appear annually in medical literature, dealing with endocrines and the hormones.

"These studies present problems for the obstetrician, the pediatrist, the surgeon, the general practitioner, and almost every branch of medical practice.

"There is yet a wide difference of opinion among these investigators relative to points of great importance in these cases.

"While I am wholly in accord with and fully appreciate all scientific study and investigation, yet I propose to advocate a treatment for these various cases, which may be and can be criticised as not being technically scientific.

"But, at least until such time as science can give us some better method of treating these unfortunate children, I prefer to be unscientific and help them, rather than to be ultra-scientific and allow them to remain in a pitifully helpless condition.

"Paracelsus, who lived from 1493 to 1541, advocated the use of gland substance in the treatment of certain conditions.

"Nor is it claimed that this treatment will entirely cure these cases.

"It is claimed, however, that the treatment will greatly benefit and improve a very large percentage of them, and make them physically able to care for themselves in most instances.

"Most of these cases are seen too late to make a positive diagnosis as to the exact primary cause of the trouble; but from examination, history, and symptoms some of them seem to be due to birth trauma, some to hemorrhage of the new born, some to congenital syphilis, and some to congenital endocrine hypofunction or disfunction.

"Yet all have certain symptoms in common, or so similar as to appear to be common; and all respond alike favorably to polyglandular treatment..

"F.N. is an example of such a case. Seen at about eighteen months of age. A drooling idiot. Able to sit alone but unable to stand or speak. Clothes wet and filthy from mucus constantly flowing from an ever-open mouth. After one year of treatment with pluriglandular substance, walking and talking (though imperfectly). Passed from observation for a period of two years, then returned. Running about rather over-actively and talking quite well, but with mental deficiency evident in facial expression and mental activity.

"Kahn says that the syphilitic virus begins by attacking the endocrine glands.

"Bickel, of the United States Public Health Service, says that the mechanism which controls the development of the body and mind, the endocrine glands, is affected by syphilis causing nanism, infantilism, gigantism, dyscrasias, and dystrophies.

"Pelteshon says that disturbances of the central innervation and of the internal secretions of cerebral addnexa participate possibly much more extensively in the etiology of congenital deformaties than has been thought. He sights, as an example, bilateral congenital hip joint dislocation.

"Bates tells us that 'Endocrinosis, or the functioning of the glands of internal secretion, determine the physical and mental processes from the cradle to the grave.'

"G.B.E. presents an illustrative case of birth trauma with probable intracranial hemorrhage. Breech delivery. Asphyxiated. Respiration established after an hour of effort. Did not nurse for three days after birth. Hematoma in sterno-mastoid muscle. Sat alone at eleven months of age. Seen at fourteen months of age: General muscular weakness and flabbiness. Held head up with difficutly and for a short time only. Sits alone but does not stand. Mouth open and drooling. Disposition bad. After nine months pluriglandular treatment, is happy, walks and talks. Mentality apparently 100%.

"An extreme type of endocrine disfunction is presented by N.D., who was brought to my office when fourteen and a half months of age. Delivery normal. Breast fed. Weight—eleven pounds and four ounces—exactly half what it should be. Could neither stand, sit or hold up his head. Had no teeth. He lay a helpless mass of human flesh, absolutely devoid of any evidence of mentality. Rattles, bright toys, and even loud noises were wholly disregarded. He would hold no object, even when placed in his hands and his fingers closed around it. A bright flash of light close before his eyes would elicit no reaction, neither pupillary contraction, closing of the eyes nor even winking. There were certain cretinoid characteristics, notably a thickened tongue, though he slept with his mouth closed. Hands and feet were cold. There was an umbilical hernia. There was, however, no disproportion between the limbs and trunk. Under pluriglandular treatment became almost normal in every way.

"D.P., a female, six years of age. Typical Mongolian in type and appearance. Did not walk until three years old. Never cried in her life. Teeth badly decayed. Sat quietly in a chair little interested in anything. With absolutely no promise or encouragement to the mother, we put her on a treatment of gland substance, insisting that it be continued uninterruptedly for at least a year. Twice

during the year the treatment was suspended because the child became so active that it took some one all the time to watch her. She was running, playing, climbing trees and fences; and in less than two years was in school, and getting along, though not up to the average of her classes.

"In advocating pluriglandular treatment for these cases we do not, of course, oppose uniglandular treatment for those cases in which it is possible to diagnose with a reasonable degree of certainty that the trouble is due to functional disturbances of a single member of the endocrine group.

"We are all familiar with the intimate functional interrelation that exists between the various members of the endocrine group, and we are taught that functional disturbance of one gland produces functional disturbance of other glands, yet many authorities insist upon supplying only one of the deficient hormones, in treatment.

"It may be all right to correct the error of one gland by correcting the error of the allied gland that causes its trouble, but we believe that in many instances the correction can be made more quickly and more completely by supplying all the various hormones that are lacking or that are deficient in amount, in so far as that can be done.

"The problem of these cases is very far from solved and it is hoped that more interest will be taken in these little unfortunates to the end that better treatment may be given them and that better results in usefulness and happiness may be attained."

Dr. Philips, dermatologist, Wheeling, says: "In dermatology we do not see many conditions which might be attributed to the endocrin glands and, consequently, I know relatively little about them. However, a few do give symptoms referable to dermatology. The pancreas in diabetes mellitus causes pyogenic infections, as folliculitis, furunculosis, and carbuncles; also, sometimes gangrene of the extremities. Then thyroid in its hypothyroid conditions, as myxoedema and cretinism, produces a dry, wrinkled skin and sparse hair, and in its hyperthyroid conditions, as exophtholmic goitre, a flushed and moist skin. Also, scleroderma is supposed to be produced by hypothyroidism. The hypopituitary condition produces absence of hair. Beyond this, except the general dryness and eczematous conditions sometimes accompanying endocrin dyscrasias, I see little direct connection between the internal secretory glands and dermatology."

Dr. Scherr proposes to treat hemophilia with ovarian extract. This is all theoretical on his part. He reasons that men bleed, women don't. Man have no ovaries, women do. Supply men with this lacking hormone and the hemophilia will be held in abeyance. A combination of ovarian and thyroid given at intervals might possibly cure this condition.

I have had two deaths from hemophilia in the same family. There were four children—three boys. One was not a bleeder. I found out that one of the boys was a bleeder by his persistent bleeding after a tooth had been extracted. I injected the gums with adrenalin chloride and stopped it temporarily. Thyroid stopped it until the gums healed. Later he took typhoid fever. I put him on thyroid, hoping to prevent intestinal hemorrhage. Everything went on well. The typhoid ended. I saw him on Wednesday and told him I would not need to see him further, but for him to remain in bed until Sunday and then get up. On Saturday evening a number of his friends came in to congratulate him on his recovery. Some one told a funny joke which tickled the boy so much he had a prolonged laughing spell. During this he felt a slight twinge of pain in his abdomen. During the night he grew worse. In the morning I saw him. He died shortly afterward. His abdomen was full of blood. In my list of many hundreds of deaths, this was the only one that I wrote, "Tickled to death." Had I given Dr. Scherr's theoretical treatment, I might have been spared the humiliation of adding one more cause of death to my long and varied list on my record book. Let us hope that none of the younger men

will have this cause of death to put on their necrological records.

This treatment has lately been worked out by clinicians in bleeders with eminent success. The work has not been done long enough to say that it cures hemophilia permanently, for the work is being carried on and we hope to be able to report continued and lasting cure.

This is the best and most up-to-date discussion I have had. It is by Dr. Robert King Buford:

"My experience with ductless glands has been limited to the thyroid, ovary and pituitary glands. The wonderful clinical results obtained by the use of thyroxin and desiccated thyroid extract in the treatment of hypothyroidism and myxedema is well known. However, I find that all patients with minus metabolic readings do not respond to thyroid medication. If the blood cholestrol is above 200 mgs., you can feel assured that they will respond to thyroid therapy.

"For a number of years I have given ovarian substance five grains, three times a day from the twentieth to the first of each month for at least six months in all cases of surgical menopause with very gratifying results. The last two years we have received encouraging results from estrogen, which is a whole gland product that can be given subcutaneously.

"Recently some of my associates have achieved brilliant therapeutic results from the administration of theelin for ovarian hypofunction. Theelin is the ovarian follicular hormone in pure crystalline form for hypodermic use, made available through the research work of E. A. Doisy of St. Louis University.

"A thorough knowledge of the recent contribution of the physiology of the pituitary glands is necessary to treat intelligently hypo and hyper-ovarian functions. The pituitary gland is composed of two lobes, each secreting a different hormone. The hormone produced in the anterior lobe stimulates the growth and function of the ovary. Under this influence the ovary ripens and secretes a hormone which in turn causes a growth and proliferation of the endometrium in the uterus. After the rupture of the follicle there is established in the latter a corpus luteum which also produces a hormone that in its action is similar to the hormone contained in the follicle. Without the pituitary gland there is no activity of the ovary and without the ovary, there is no activity of the uterus.

"In functional uterine bleeding, especially of the so-called hyperplastic endometritis, I found through my own personal investigation that pituitrin hypodermically will shorten the duration of the menorrhagia long before this recent work was reported.

"The following is an abstract of a recent article of Novak and Hurd:

" 'This report deals with the treatment of fifty-one cases of functional uterine hemorrhage by a luteinizing principle of the anterior lobe of the pituitary gland derived from the urine of pregnant women. In forty-four cases the treatment checked the bleeding, even though some of the patients were treated with preparations of somewhat uncertain luteinizing potency. Most of the failures were in the latter group. Previous efforts at the organotherapy of the condition have been unsuccessful. As irradiation treatment is very undesirable in the cases of young women, the frequent intractability of functional hemorrhage often necessitates repeated curettage.

" 'The characteristic ovarian finding in functional uterine hemorrhage is absence of corpora lutea. The administration of progestin would be a rational treatment, but progestin is not yet available for clinical use. Its efforts would be purely substitutional as it has no action on the ovaries. The administration of the luteinizing hormone of the anterior lobe of the pituitary gland (Prolan B) can be expected to be more fundamental in its effects. This substance has been shown by laboratory studies to produce striking luteinization in the ovary. The secretion of the lutein cells is progestin, the element lacking in functional hemorrhage. The hormone can be obtained from the urine of pregnant women, but its extraction is as yet difficult and the preparations which the authors have used have varied greatly in their potency.

" 'With strongly luteinizing preparations it was possible to check functional hemorrhage in 27 of

the 29 cases. In 14 of 51 cases the bleeding ceased after a single injection, and in 12 it ceased after two injections. A large proportion of these cases were of the intractable and recurrent type. In many, from one to four or more curettements had been done. When less potent luteinizing preparations were used, the results were less impressive, but on the whole satisfactory.' "

These quotations show that there is much work to be done along endocrine lines over the states.

This paper, by Dr. R. J. Condry, of the Davis Memorial Hospital of Elkins, shows that the leading hospitals of the state recognize that glandular disfunctions are receiving proper consideration:

"In this clinic we have used glandular products in a number of instances with good results. Whether or not these patients had a deficiency of endocrine function is a matter of conjecture. The whole subject is a recent addition and development of medical science and in such instances many patients are termed 'endocrine' whether they are or not. We have treated a few patients with menstrual disturbances, notably amenorrhea where no cause could be found, menorrhagia where no cause could be determined, and we have had a few patients with menstrual disturbances probably due to deficient pituitary secretion. All of these patients have been helped by the use of thyroid gland, pituitary substance and theelin, the new product recently developed by Doisy. We have also had a number of obese patients who showed by glucose tolerance tests, basal metabolisms, etc., a probable endocrine malfunction and who improved under thyroid and pituitary glandular substances. We had one patient who presented all the evidences of 'nephrosis,' in whom thyroid helped to alleviate the symptoms. This disturbance, as you probably know, is supposedly metabolic. At the present time we have a patient, age 17, under observation who presents a typical syndrome of hypo-pituitarism. She is underdeveloped and has not menstruated. She was given thyroid and pituitary and her symptoms disappeared but she still has amenorrhea. We have given her two courses of theelin, five ampules to the course, but so far there has only been a semblance of the menses. The above types of disorders we have observed and, on the whole, the results have been very good. Of course, that is as it should be if the diagnosis is correct, and the individual really has an endocrine disturbance."

Pituitary Glands.—Is the pituitary gland necessary for life? This has been investigated by many men. Some found that what they thought to be evidence that animals that had the glands removed died after a longer or shorter time. Others found that some of the animals did not die but lived in health. So the investigations have not proved anything definite. The pituitary glands seem to have balancing action in the control of blood sugar in diabetes. In cardio-vascular disease it has a steadying effect on the heart—temporarily at least. Disease of the interior lobe of the pituitary glands or its non-development produces an amenorrhea that persists throughout life without the usual physiological functions of puberty and young womanhood. Dysmenorrhea is caused in many instances by the hypo-function of the pituitary glands.

OBESITY OF PITUITARY ORIGIN. — The enormous children we see on the streets, the boy twice as heavy as he should be, and the girl as big around as she is tall, probably are all due to abnormal pituitary function—hypofunction. These children are stupid and dull and weak mentally like the children of hypothyroidism. Hypo-function of the anterior lobe produces obesity and hypo-function of the posterior lobe produces lack of development with no deposition of fat. Pituitary headaches, pituitary obnormal pain and pituitary manifestations marked by constitutional symptoms are seen on all sides, but rarely recognized. Many women have these pituitary manifestations, and are treated for backache or headache or prolapsed uterus or female trouble or operated on for some suspected tumor or cancer or ulcer, the physician or the surgeon failing entirely to recognize the trouble to be in the brain instead of in the reproductive organs.

I recall a case that one physician and one surgeon had entirely overlooked the true cause of the disturbance. A gynecologist had treated the patient for weeks for "female trouble," by placing tampons at the mouth

of the womb every other day for weeks with no improvement. A surgeon was called, and he insisted on immediate operation, and had the husband called from the mine where he was working. The surgeon demanded a deposit of $337 before sending the woman to the hospital. The husband said, "I don't have the money." "Can't you borrow it on your home?" the doctor asked. "It is more than covered now," was the husband's reply. Therefore, she was not operated on.

A third doctor found she was a hypothyroid with pituitary imbalance. It was fortunate for this woman that she was poor, for the operation would have been entirely useless.

Pituitary epilepsy is rarely recognized; generally it is laid to ordinary epilepsy or hysterical manifestation. There are cases of distressing pituitary somnolence in the day-time, but the same patient has insomnia at night with bad dreams and nightmares. Uncontrollable sleepiness in day-time is due to abnormal function of this gland, and in the same patient there may be distressing sleeplessness and nightmares.

Hyper - pituitarism produces gigantism (eunucoid)—in which long bones are greatly lengthened. This is produced by the overgrowth of the anterior lobe. These people are generally well developed in all parts and have deep voices, unlike the hypo-function of the thyroid. This condition may be caused by trauma or infectious disease.

ACROMEGALY.—These patients have thick stocky body, heavy broad hands, club nails—very brittle. They are generally covered with hair all over. They are at first very irritable and cranky, then will become quiet and unobtrusive. The hands and feet are given to an extreme amount of sweating. The bones of the face may grow to an unsightly size, making them have a hideous appearance.

Bleeding.—Bleeding anywhere in the body is always a matter of great concern to the physician as well as to the patient. It is a condition we all have to meet almost daily in our work. Some hemorrhages, of course, are apparently trivial, but may be precursors of dangerous bleeding. Ordinary nose bleeding is generally easily controlled, but there are instances in the experience of almost all of us that have given us great concern, and in my own knowledge I know of one death.

Pulmonary hemorrhage is always one of grave concern to the patient, and one that gives the physician much trouble, and when we find the bleeding of menstruation, the hemorrhagic status of hemophilia, purpura, and hemorrhages occurring during many diseases, such as tuberculosis, typhoid fever, in ulcers of the stomach and bowels, and epistaxis, which seems to occur for no purpose whatever, then one wonders what it is that governs this loss of blood, and what benefit is to come to the body through such loss. One would like to believe that such frequent happenings should have some physiologic function, rather than a mere purposeless accident.

In certain conditions it seems that after hemorrhages the body takes on an increased physiological action that tends to stimulate the bodily functions, and restore it to normal work. Somehow or other the normal menstruation keeps the woman in physiologic balance, and only when this function gets too scanty or too excessive does the health of the woman become impaired. This physiologic bleeding seems to be intended to keep the woman in bodily health so that she may impart a proper strength to her offspring. In this bleeding nature has intended it for some good purpose.

We all know that pulmonary hemorrhage in tuberculosis has a good effect by helping to stop the necrosis of the lungs when the hemorrhages are not excessive and too frequent. Also, in gastric ulcers, the hemorrhages seem to have beneficial effects in many cases. Somehow or other, not yet fully understood hemorrhages at times do good, and help restore the tissues to normal function.

But we are not studying the physiology and therapeutics of bleeding, however interesting and profitable, but we are interested in how to stop them and prevent them.

For instance, it is known that thyroid gland given by the mouth prevents hemophiliacs from bleeding for a considerable time. Also calcium helps all bleeding and bleeders. Many remedies help, but in recent years there has been developed a tissue fibrogen that has been one of the most useful remedies introduced to the medical profession since the time diphtheria antitoxin first came into use. This substance is made from the lung tissue of the calf, and was worked out principally by Dr. C. A. Mills of Cincinnati. This, as you know, acts quickly in producing coagulation of the blood. It acts best given by the mouth. If the stomach is empty, and given with a glass of cold water, it is but a few minutes until it has its full effect on the bleeding. But if there has been blood swallowed, as is often the case in pulmonary bleeding or nose bleed, we had better depend on the hypodermic injection, as the fibrogen is held in the clot in the stomach and is of little avail. Yet we all know that if this substance is injected into a vein coagulation of the blood follows immediately. Rabbits die in a minute or two. So we have this recent remedy at our command to help us in time of dire need.

Liver.—Minot and Murphy, of Harvard, several years ago found that pernicious anemia responded in a surprising manner to food rich in proteins, especially the liver of mammalians and fresh fruits and vegetables, and low in fats. It is possible that a long standing defect in diet may be a cause of pernicious anemia. Following the diet, all the patients showed a prompt, rapid and distinct remission of the anemia, with marked symptomatic improvement, except when there was marked spinal cord degeneration. When many blood transfusions have been done, the treatment responds more slowly.

It seems that lack of vitamin A has something to do with the production of pernicious anemia.

Minot and Murphy, in reporting further on giving liver, kidney or potent extracts of liver, note the prompt improvement of these cases. There seems to be something in the diet that acts in a specific manner. Patients fed on about six or eight ounces of cooked liver daily all improve. The improvement is usually rapid and marked, and the red blood cells multiply in a very rapid manner. Very rarely does a case show little or no improvement. Failure to take sufficient liver or the presence of infection or injury to the bone marrow by frequent blood transfusions may account for the slow improvement of some patients.

Extracts from one or two ounces of liver given daily seem to act as rapidly and as satisfactorily as the liver itself and stimplify the treatment greatly. These extracts can be obtained without trouble and can be used regularly and with equally good results.

The administration of hydrochloric acid and pepsin seems to add to the efficiency of the liver.

Some doctors give the liver raw in sandwiches, some give it underdone the same way, or slightly roasted, and given in soup; but giving it with a full diet as recommended by Minot and Murphy probably is as practical a way for those who need to keep at their work.

Whipple found that muscle fibre gave good results in anemia, and that chicken gizzard is the most efficient of the cures for anemia. Milk has no stimulating effect in the production of hemoglobin and red cells. Fresh fruits and dried fruits are equally efficient in producing the hemoglobin and red cells in the liver diet. Peaches and apricots are better than raisins and fresh grapes.

There is no doubt that the working out of the liver diet in anemia has been the most noted advance in the treatment of anemia of any therapeutic advance in recent years. This makes available to us a most satisfactory means to combat anemia where we formerly had to depend on other agents that were entirely unsatisfactory.

There may be an undetermined imbalance of the endocrines that is the cause of pernicious anemia and when we have learned

more about its cause we may still further simplify its treatment.

Thymus Gland.—The improper functioning of the thymus gland is responsible for many nervous and mental conditions in children. The Mongolian idiocy is caused almost entirely by the improper function of this gland. Backward children in school are generally so by the vagaries of this gland.

In seventy-five per cent of idiotic children examined at post mortem by Morrel it was found that the thymus was absent. Administration of thymus extract has had excellent results in dementia precox. In treating myesthenia, thymus extract has been found to produce good results in most cases.

Mongolian idiots are generally the last one born of large families, or are the off-spring of parents of greatly different ages. These cases are markedly improved by thymus extract, thyroid extract, and pituitary extract.

In training backward children in school, care should be taken in not pushing the child faster than his mentality will permit; for it will make him discouraged, sullen, irritable, and later criminally inclined. This should be in the hands of some one who has studied weak mentality and knows the proper amount of work the mind of the particular individual is capable of doing, and not in the hands of some teacher who has passed the teacher's examination and received a certificate for proficiency in "readin', writin', and 'rithmetic," and then sent out to teach the children, probably with no knowledge whatever of the proper teaching of the defectives, but whose ideas are based on the power of the brightest ones, believing the others should keep up.

There is good reason to believe that the over activity of the thymus has something to do with criminalities. Dr. Samuel J. Morris, Professor of Anatomy of the West Virginia University Medical School, has studied fifteen hundred thymus glands. Of this number twenty-three were persistent, and they all were criminals, twenty-one of whom had been hanged at Moundsville for murder. Dr. Morris is firmly of the opinion that persistent thymus glands have something to do with criminality, at least in many cases. He suggests that persistent criminals should be rigidly examined for persistent thymus gland, and if found persistent, that a thymectomy be performed, or have the gland held quiescent with x-ray.

Outside of surgery, the treatment of thymus disease is essentially organo-therapy, usually thymus, thyroid, adrenal and pituitary combinations, with proper hygienic control.

NOTE: "A prophet is not without honor except in his own country." When I read this paper before our local society I expected a larger attendance than usual, as I had gone to most of the men in the society to get pointers and their experience on the endocrines. Some of them seemed interested, some of them did not. But when the meeting came there were almost as many doctors from Fairmont present as from Morgantown.

So far as I know every doctor in the county is friendly to me and I was disappointed in their lack of interest in "A Hodge-Podge on Endocrinology."—for that was all it was.

I sometimes think, "What's the use! Why should I try to help make organized medicine stronger and better? Why should I try to stimulate interest in building a better and more efficient organization? Why should I try to help others to take more interest in the general welfare of the people? Why should I neglect my personal affairs in order to help others?" After more than a quarter of a century of work for organized medicine I again ask myself, "Does it pay?"

POORLY SELECTED CHARITY

"And the greatest of these is charity!"

But there's no philanthropy in sending dancing shoes to a cripple or blooms to a blind man.

Quite in line is the misdirected benefaction of wealthy, kind-hearted persons, who with all the generosity of those highly impressionable nervous systems frequently prevalent among the wealthy laity let their nerves and their hearts get the better of their sense of justice, economics, and essential need.

When such a mishap occurs what do we find in their midst?

Only too often there occurs a "medical institute" or a "free health center" for all sorts of patients, whether these be needy and unable to pay or rich and parsimonious.

Noble in purpose as may be these endeavors on the part of the ill-advised laity, Heaven knows their results are often over productive of exactly the opposite of what was intended. Instead of helping the destitute poor to rise to better stations such ill-advised charities tend to submerge the self-respecting poor into the path and swamps that lead to pauperization.—*Illinois Medical Journal.*

SOCIAL INSURANCE UNDERMINES NATIONAL CHARACTER *

By EDWARD H. OCHSNER, M.D.

SOMEONE has said, "Happy is the nation that has no history." Whoever said this probably had in mind the old type school history text books which contained little besides records of military campaigns, revolutions and international wars. Viewed from that standpoint the epigram was unquestionably true. Today a more suitable epigram would be—"Happy is the nation that has no need for charitable organizations or devices." The ideal society would be one in which every individual can and does secure a decent living for himself and those dependent upon him by the "sweat of his brow," or by mental exertion, or, what would be better still, by the application of both brain and brawn.

There is no fundamental difference between outright charity and social insurance; both undermine character; both have a tendency to pauperize the citizen, for both rob the individual of his self-reliance and his enthusiasm and his urge for industry; they both penalize the honest, frugal and industrious, and favor the lazy shifters and immoral because they inevitably favor the unfair and inequitable distribution of the results of labor; both encourage malingering and favor neuroses; both often give something for nothing or much for little, which is the basis of parasitism, and both delay the ultimate goal when every man shall reap the fruits of his labors.

The man who once accepts charity, particularly if it is not a case of dire necessity, is not quite so fine a man as he was before. He has lost something that nothing can replace. War, pestilence, or general disaster may reduce anyone of us to want and penury and then there is no disgrace in accepting aid from our fellowman; but under ordinary circumstances no able bodied individual with fair intelligence and health has any moral right to that which he has not honestly earned.

The proponents of compulsory health insurance will undoubtedly say that it was with the view of saving men and women from the stigma of being paupers and the evil effects of pauperism that this and other phases of social insurance were brought forward. Exactly, but what has actually happened they did not foresee. As is so generally the consequence when a law is enacted on an emotional basis instead of on sound reasoning and adequate experience, an element was introduced even worse than pauperism; besides, pauperism was not relieved nor even mitigated.

There are two distinct types of paupers. The mentally and morally subnormal who are not in any way injured by the stigma of pauperism and who still remain paupers because no compulsory health insurance law so far devised includes or can include them. They are the "unemployables" whom industry can not use. The second class are old people who in their youth have been lazy or extravagant, or who have lost their savings through poor investments. Those who have been lazy and extravagant are simply reaping their just reward and have no one to blame but themselves and it is morally wrong for the government to tax the thrifty and industrious for their support except in almshouses. The way to deal with the problem of the investment shark is to teach the pupils in our high schools something about investment and to hang the gold brick and non-secure security salesman, or if this is too drastic, devise some other way of putting them out of business.

Compulsory health insurance has simply added parasitism to pauperism. The effect upon the insured and upon the public in general is almost as bad as it is on the medical profession. It encourages malingering and deception; it puts a premium on sloth and shiftlessness and a penalty on industry and integrity and thrift; it robs industry of its just reward; and it encourages parasitism.

One of the first effects observed after its introduction in Germany was the changed attitude of a large group of the insured. Before the law went into effect, patients came to their physicians for the relief of real ailments; after it went into effect an ever-increasing number came with imaginary and simulated ailments for the purpose of getting the sick benefit stipend or free hospital care. The latter was particularly the case in the fall of the year when many came complaining of things that were difficult to diagnose and hence difficult to exclude such as spinal concussion, neuritis, and vague ab-

* This is the eighth of a series of articles on Social Insurance by Dr. Ochsner.

dominal pains. As time has passed this abuse has gradually grown to appalling proportions as the following statistics indicate. Dr. Potts of Oak Park, cites the following:

In a check-up in Brawnschweig, two thousand eight (2008) people on the sick list were asked to report for a check-up examination. This induced eight hundred sixteen (816) to report for work at once, two hundred eighty-nine (289) were found fit for work and only nine hundred three (903) or less than forty-five (45) per cent of those receiving sick money were actually sick. The proponents of compulsory health insurance will undoubtedly say—this is an individual instance. But not so. This abuse is so almost universal that it is seriously affecting the general honesty of the rank and file of the citizens of those countries where it has been in operation the longest. Social insurance is one of the major factors which has brought Germany to the very verge of economic ruin, and worse than even that—it is undermining the fundamental honesty and moral integrity of the German citizen.

BOGUS DOCTORS

A recent article in *The Lancet* casts an interesting light on the modern sense of values. An untrained layman, who had appropriated the name and degrees of a distant physician, was finally discovered in his impersonation.

In commenting on this episode *The Lancet* draws some interesting comparisons between the penalties for falsely representing oneself to be qualified in various professions. A fine of twenty pounds is considered sufficient for fraudulently holding oneself out as a physician. Architecture fares better, with a fine of fifty pounds for the first offense and one hundred for subsequent violations. To dentistry goes the deepest obeisance, with a penalty of one hundred pounds. *The Lancet* draws the only possible conclusion. "It is more than twice as serious, therefore, to pretend to be a registered architect and five times as serious to pretend to be a dentist, as it is to pretend to be a registered medical practitioner." A sense of proportion is unfortunately no constant attribute of the law.

Americans can not afford to scoff at Great Britain in this respect—our own legal structure is too definitely vitreous. The case cited by *The Lancet* is typical of the reluctance American as well as British courts show to invoke a really deterrent penalty for violation of the medical practice laws.—*New York Med. Week*, March 26, 1932.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

When the idea of periodic health examinations was proposed a few years ago, it was hoped that many cases of early tuberculosis would be discovered by that means. Experience has somewhat dampened this early enthusiasm. This disappointment, however, does not warrant the conclusion that the periodic health examination can not serve the hoped-for end. The reasons why better results were not achieved were analyzed by a special committee and published in *The Health Examiner*, a publication of the Greater New York Committee on Health Examination.

TUBERCULOSIS AND THE HEALTH EXAMINATION

In spite of much popular education the majority of cases of tuberculosis are not discovered until the disease is already well advanced. Williams and Hill, who studied the experiences of 1,499 patients in tuberculosis sanatoria, found that twelve per cent on admission to the sanatorium were classified as minimal tuberculosis, forty-three per cent were moderately advanced, and forty-five per cent were far advanced.

The family doctor is on the firing line. The early symptoms of tuberculosis are usually indefinite and the patient first of all consults the doctor "around the corner." We can not, however, always charge the delay in making a diagnosis to the doctor. More frequently the patient is himself responsible for the delay or the disease itself may be so insidious as to cause no alarming symptoms until the advanced stage has been reached. Williams and Hill found that of the 1,499 patients interviewed, thirty-three per cent sought medical advice within one month after the first symptom appeared; twenty-nine per cent allowed a period of one to five months to elapse before going to the doctor; nine per cent waited from six to eleven months; twenty-four per cent delayed from one to twenty years.

Delay in Diagnosis.—Tuberculosis organizations have repeatedly given forceful publicity to the early symptoms of tuberculosis including the urgent advice "to let your doctor decide." Such publicity almost invariably calls forth from certain laymen

the criticism that the doctor is incapable of deciding. While such comments are doubtless unfair, they do raise the question as to how promptly the diagnosis is made by the physician, once the pateint has come to him.

Williams and Hill found that the physicians took less time to decide that their patients had tuberculosis than the patients required to become aroused to their need of medical advice. At least forty-three per cent of the group were diagnosed within a month of the first visit and almost one-half of these were told they had tuberculosis at the first consultation. This record is distinctly commendable. The less favorable side of the picture is that sixteen per cent of the patients had to wait a year or more before they were told they had tuberculosis.

A more severe test of the ability to make diagnoses early may be made by analyzing only the group diagnosed as "minimal," of which there were 181 (out of the total of 1,499). Of this minimal group seventy came to the doctor within one month of the appearance of the first symptom. Twenty-six (37%) of them were diagnosed within the first month and fifteen (21%) waited a year or more before a diagnosis was made.

What is the hope of discovering early tuberculosis among patients who come complaining of no particular symptom but simply for a health examination? The danger signs are frequently overlooked, perhaps because doctors are not always "tuberculosis conscious." The early signs of tuberculosis (with the exception of hemoptysis and pleurisy) seldom direct attention forcibly to pathological changes in the lungs. The symptoms are usually vague and indefinite. Lawrason Brown has said it might be well for every doctor to hang a sign in his office reading "Remember Syphilis and Tuberculosis" for these are the two great simulators of other diseases. It is true that one should approach each patient with an open mind and make deductions only from the findings, but since we "see what we know" it is certainly not amiss to keep in the background of one's mind the possibility of tuberculosis in every case.

Finding Tuberculosis in Youth.—To be "tuberculosis conscious" is particularly necessary when examining youngsters in their late teens and early twenties. The dramatic rise of the tuberculosis death rate in the age period of fifteen to twenty-five contrasted with the low rate during early childhood, suggests that adolescence is for many the transition period; indeed, the critical period for many who develop tuberculosis.

Most cases of adult type tuberculosis represent a super-infection on previously infected soil. In the adolescent period the sleeping embers of tuberculosis seem to burst into flame within a relatively short time. Then it is that we should be unusually alert for any danger signs of developing tuberculosis. Nor should it be forgotten that certain types of tuberculosis progress rapidly, as for example the subapical type in which the disease seems to develop acutely in the lung region immediately below the clavicle. From that focus it may spread or gradually become chronic, and the suspicion of some is that apical type generally considered to represent very early pathological involvement, is but the remains of a subapical, acute process. Other forms of acute development are the miliary and bronchopenumonic types.

History and Physical Signs.—Pulmonary tuberculosis may exist without any suggestion of ill health. While the history at best can be only suggestive, a careful history-taking is important. Underweight is no measure of the presence of tuberculosis, although rapid loss of weight is very suggestive. Of great significance is any suspicion that the patient has been in contact with a case of tuberculosis in the family, particularly if exposure has taken place during childhood. The constitutional symptoms such as fever, undue fatigue, rapid pulse, loss of weight, night sweats, draw one's attention to no special organ. Localizing symptoms such as cough, expectoration, hemoptysis, pleurisy, focus our attention on the lungs. Hemoptysis and pleurisy with effusion are strongly presumptive. If there is one typical symptom of tuberculosis it is fatigability. The more obscure the fatigability is, the greater is the suspicion that tuberculosis is its cause.

Skill in interpreting physical signs of tuberculosis lesions in the lungs depends on an understanding of the pathological mechanism. The variations are too many to discuss here. One general principle is that râles in the upper segments of the lungs warrant the presumption of pulmonary disease, probably tuberculosis. The nature of the râles whether fine, crepitant, or moist, makes little difference—any râle that persists after the patient coughs should excite the suspicion that tuberculosis is present. To elicit râles the patient is instructed to cough slightly at the end of each expiration. Râles, if present, will be heard immediately after the cough and perhaps at the beginning of the next inspiration. The time

has passed when we wait for the finding of tubercle bacilli before venturing a diagnosis. The sputum should be examined repeatedly, but a negative finding in no wise excludes the presence of early tuberculosis.

In all instances in which the chest examination reveals abnormal signs, a radiograph should be made. In patients with suggestive symptoms and negative physical signs, a radiograph should also be made, for some early lesions can be discovered only in this way.

Should the tuberculin test be included? Early statistics created the impression that all adults and nearly all children reacted positively to the test. For that reason the value of the test was unwarrantedly discounted. Later observations have shown that infection is by no means so widespread. A positive reaction in an adult is of scant significance, but a negative reaction speaks volumes; it almost certainly excludes tuberculosis.

A Group Disease.—Tuberculosis should be regarded as a group disease. Hence when a case of tuberculosis has been discovered the entire family should be examined, not only at that time of discovery of the active case, but also periodically thereafter. The examination of the children should include the tuberculin test and, if the reaction is positive, a radiograph. In examining contacts, one should not omit the older persons of the household. It happens only too often that the grandmother with a "summer cough" or the elderly uncle with a "bronchitis" harbor in their fibrotic lungs tubercle bacilli which they excrete over a period of years without ever being aware of it.

Periodic health examinations should be one of the best case-finding methods known. What is necessary is an understanding of this protean disease, a constant awareness of it and thoroughness in the ordinary techniques known to every doctor. —*The Health Examiner*, April, 1932.

CONFERENCE ON TUBERCULOSIS

Dr. J. Arthur Myers, chief of the medical staff, Lymanhurst School for tuberculous children, Minneapolis, and associate professor of preventive medicine, University of Minnesota, will be the principal speaker at the evening session of the eleventh annual meeting of the West Virginia Tuberculosis and Health Association, at Elkins, September 6. Dr. Myers is the author of a recent text book entitled, "Tuberculosis Among Children." The results of his investigations have been used by the National Tuberculosis Association in planning the literature and activities for the 1931 and 1932 early diagnosis campaigns. The subject of his address at Elkins will be "Tracing Tuberculosis to Its Source."

Dr. O. F. Covert, president of the State Tuberculosis and Health Association, extends a cordial invitation to every physician to attend the annual meeting of the organization. Other speakers on the program will be Dr. W. T. Henshaw who will discuss the important problem of "Case-reporting of Tuberculosis in West Virginia." On the morning of September 7 there will be a conference on tuberculosis field clinic service at which Dr. George F. Evans, superintendent of Hopemont Sanatorium, will explain the use of the tuberculin skin test and the x-ray in the diagnosis of tuberculosis. Dr. J. W. Davis, director of the mobile health unit of the State Health Department, will discuss the educational value of clinics. Dr. A. E. Russell of the United States Public Health Service will give an account of special studies he is making in tuberculosis.

A special program has been arranged for public health nurses. This will be an institute of three sessions on "Tuberculosis Nursing" to be conducted by Mrs. Violet H. Hodgson, assistant director of the National Organization for Public Health Nursing. It is announced that physicians and health workers generally are privileged to attend this institute. Mrs. Hodgson has directed similar institutes in many states and her work is highly endorsed. A special invitation is extended to hospital nurses to attend the institute at Elkins.

PROTECT CHILDHOOD

Health is more than merely freedom from disease; it is a condition of abounding vitality in which there is capacity of the person to make satisfactory adjustments to the stimuli that come from the physical and the social surroundings, according to Dr. Lewellys F. Barker, who writes on keeping children well, in the September *Hygeia*.

Schools, both public and private, are coming more and more to the realization of their duties and responsibilities in regard not only to the health of the pupils they admit but also to the maintenance of health after admission.

"The welfare of the pupils should be the main consideration, for on that welfare depend the health, the happiness and the usefulness of the developing generation," the author concludes.

PRESIDENT'S PAGE

THERE is quite a difference of opinion within the medical profession of this state relative to industrial medicine and surgery; particularly in regard to certain alleged abuses and violations of the compensation laws. As this is confined largely to the southern part of the state, many members living in the northern section are not in a position to appreciate this problem. At the Parkersburg meeting in June I attempted to clarify this matter for all by dealing with certain phases of this important subject. My recommendations were endorsed by the Association.

In order to further clarify this matter, that our Association would be certain of its future action, I approached the American College of Surgeons on the subject of a state-wide survey of industrial medicine and surgery in West Virginia. The College expressed a desire and a willingness to make such a survey.

Your Council was next called in a special meeting at Charleston on August 2, 1932, and at this meeting, with only three absentees, the question of the survey was thoroughly discussed. The Council felt that these matters could only be settled to the satisfaction of all by having an impartial and thorough investigation made. A resolution to that effect was adopted and the College was directed to proceed with the investigation immediately.

It was decided also at this Council meeting that the newly created Committee on Medical Economics, composed of Dr. J. Ross Hunter, Charleston, chairman; Dr. Wade H. St. Clair, Bluefield; Dr. R. H. Walker, Charleston; Dr. W. S. Fulton, Wheeling, and Dr. Chester R. Ogden, Clarksburg,—men of different opinions but broad of mind and who would not allow personal desires to overshadow the welfare of our Association, should advise with and outline the scope of work to the investigator. Your president, because of his well known views regarding the matter, asked to be relieved of any responsibility in its direction.

On August 8 this committee met with Dr. M. N. Newquist, who was delegated by the American College of Surgeons to make the survey, and Dr. Hunter informs us that every member of his committee was in attendance except Dr. Ogden, who was ill.

After the survey is completed (which will require about two months) and the report finished, your Council will again be called together to receive same and take whatever steps they deem advisable.

When this survey is completed and definite recommendations made, whatever they may be, all of us should remember that they are made by an organization that is thoroughly competent. Moreover, its findings will be fair and unbiased and its recommendations will be for the good of all physicians and not a particular class. Regardless of our former, or individual views, in the future our Association should be guided in this important matter by the recommendations made after this survey and to this end I now pledge my hearty support.

Albert H. Hoge

President.

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MR. JOE W. SAVAGE — Charleston

THE WET AND DRY

At the Parkersburg meeting of the West Virginia State Medical Association, the House of Delegates voted almost unanimously to sponsor a medicinal whiskey bill in the state legislature. The House of Delegates is the governing body of the Association and is made up of a proportionate share of delegates from each county society. The resolution advocating medicinal whiskey was adopted only after considerable discussion, during which every representative present had an opportunity to fight either for or against the proposal.

As a result of the action at Parkersburg, House Bill 47 was introduced in the West Virginia legislature. It passed both the house and the senate and was sent to the Governor for his signature, or his veto. It was then rumored about the state capitol that this bill did not have the support of the West Virginia State Medical Association. It began to be understood that Governor Conley would veto the bill.

In order to show Governor Conley that House Bill 47 did have the support of organized medicine, telegrams were dispatched to each county secretary in the state asking these secretaries to wire the Governor in support of the bill. There were two county societies that refused to take this action. Instead, they held special meetings, voted against the bill, and withheld their support.

We do not feel that this had anything to do with the final outcome. Governor Conley received plenty of assurance that this was a Medical Association bill. He vetoed the bill because he felt it did not come within the scope of his call.

It isn't the veto that worries us nearly so much as it is the failure of county societies to give their support and coöperation to the Association. We recognize the right of every society to fight against any principle they feel is wrong, but they should make their fight within the Association; not outside of it. Once the House of Delegates of the Association agrees (especially by an overwhelming vote) to sponsor a definite project it becomes, it would appear, the duty of every member and every constituent society to give support when called upon. Otherwise the Association has little chance to further the interests of scientific medicine in West Virginia. It is handcuffed before it starts out.

Let us point out once more that the Association must stand together as a single unit if it is to accomplish its objectives. The various county societies, through their delegates, determine those objectives. The place to promote or oppose an association project is within the Association.

We do not feel that the action of these societies deliberately attempted to thwart the aims of the Association. Instead we believe that they were perhaps not familiar with the action at Parkersburg. We cite this not as a complaint, but simply in the hope of forestalling similar misunderstandings in the future.

INDUSTRIAL MEDICAL SURVEY

The Council of the West Virginia State Medical Association has recently authorized a survey of industrial medicine in this state to be made by a field representative of the American College of Surgeons. The guidance of this survey was placed in the hands of the recently created Committee on Medical Economics and is now under way. It will be completed on or about October 1, 1932.

There is a great deal of conjecture as to just what this survey of industrial medicine will accomplish. Will it solve the contract problem; will it settle "list" hospital practice to the satisfaction of all; will it do away with fee splitting; will it place medical practice back in medical hands? Our answer is that it will accomplish none of these things. Any member of the Association who expects this survey to act as a cure-all for our economic ills is bound to be disappointed.

At the Council meeting on August 2 that authorized the survey, it was pointed out many times that the Association did not know just exactly what it wanted. It was, in fact, this wide divergence of opinion that finally brought an agreement in favor of the survey. It was agreed that our problems in the field of industrial medicine had grown to such proportions that they should be studied in a scientific way and a working solution offered by an outside, unbiased source.

The survey is not an end in itself; it is simply a means to an end. Through this survey, the council hopes to establish a common ground upon which all the varying opinions within the Association can meet. The Association can accomplish little so long as its members stand divided upon any major issue. If the survey can unite our members so that all the various factions will unite and strive toward a common goal, then and only then will the survey be of value.

We hope that the Association members will prepare themselves now to accept the findings and recommendations of the American College of Surgeons. What those findings and recommendations will be, no one knows. We do know, however, that the American College of Surgeons bears an unsullied reputation, that its findings will be unbiased, and that its recommendations will be based upon an experience much greater than our own.

The survey is being conducted by Dr. M. N. Newquist of Chicago. Dr. Newquist is now traveling "somewhere in West Virginia." He will call upon many members of the Association. We feel it is hardly necessary to suggest that Dr. Newquist be extended the courtesies of a visiting confrere.

QUICK ACTION

In the editorial columns of this issue appears a discussion under the heading, "The Wet and Dry." This discussion deals, in a roundabout way, with the medicinal whiskey bill which was before the extra session of the West Virginia legislature. At the time the editorial was written, the bill had been vetoed by Governor Conley and was apparently dead timber.

On August 17 the Senate passed the bill over the veto and it will become a law on November 17, 1932. The JOURNAL's chief interest in the medicinal whiskey bill lies in the fact that it was advocated and sponsored by the Association. In view of this, we wish to extend our hearty congratulations to our legislative committee for quick action. In less than two months after the Association voted to sponsor this bill, it was written into the West Virginia code. Good work!

NEWSPAPER RECOGNITION

For many years past, one of the chief barriers in the pathway of scientific medicine has been the deluge of newspaper advertising calling attention to panaceas, patent medicines, nostrum venders, quacks of all descriptions, cancer cures, or what have you. Thousands of newspaper readers, through both ignorance and hope, have fallen for the lure of extravagant advertising copy.

Apparently a day of awakening is at hand. A few short weeks ago a cancer clinic was opened in Wheeling. This organization professed to have a cancer cure for the public and set about to broadcast their claims through the Wheeling newspapers. It is with considerable pride that we quote the following editorial from the July 20 issue of the *Wheeling News:*

"Within the past few days, an organization professing to deal in and to give to the public, a cure for cancer, has made its appearance in this city.

"The advertising of this organization has been offered to this paper and has been declined.

"In view of all the circumstances, this paper believes that it would be derelict of its duty if it did not say, in all seriousness, to all of its readers that there is no medical cure for cancer; that the only effective cure known to science today is in the surgeon's knife, and the use preliminary thereto of certain treatments, which tend to make operable a case of cancer, which might not otherwise be operable.

"Men who profess, whoever they are, to be able to cure cancer are unworthy of credence, and are unworthy of the medical or surgical profession. It is the one great disease, which up to this time, has baffled the efforts of a host of sincere and earnest investigators.

"This matter might not be important were it not for the fact that many people may be deluded by these pretended cancer-curers, and others may be done positive harm. Ordinarily cancer makes its appearance in some slight abnormal growth, easily detectable. Every person experiencing such a growth should at once take steps to have it removed. In its early stages, a surgical operation is relatively easy and safe, and generally produces a satisfactory result. Allowed to run on, or neglected through mistreatment, a cancer, which might be capable of successful removal today, six months or a year later becomes deadly.

"It might be proper to suggest also that the great professions of medicine and surgery have, in the past hundred years, reported some tremendous victories over disease. Devoted men have given their lives to experimentation. They have conquered deadly diseases—small pox, scarlet fever, rabies, tuberculosis, yellow fever and many others, and it is the glory of the medical profession that the men who have done this work, have given their discoveries to the world without purchase and without price. They haven't peddled them around to make them sources of profit, or to impose upon the ignorance of deluded sufferers.

"It is altogether likely, in the course of time, the proposed cancer hospital, or institute, whatever it will be called, will fold up its tents and disappear from Wheeling. In the meantime, however, it has possibilities of positive harm, and this paper believes it is doing a public duty in warning its readers and all others who may be interested, against giving any serious consideration to its pretense."

OUR STATE HOSPITALS?

It is now a certainty that there will be nothing done in the way of investigation of the hospitals for the insane of the state during the closing months of the present state administration.

In spite of the amount of newspaper comment throughout the state on this subject it appears that we were expecting too much to to have even hoped for such an investigation at this time. This is hardly to be wondered at under the present circumstances.

If the patients in these hospitals for the mentally ill are suffering from neglect and inefficient care, as has been charged by members of our profession, then they must continue to suffer until it is possible to remedy the present situation by bringing about a change in the existing system of selecting the heads of these institutions.

There should be no quibbling over the assertion by the State Medical Association that the men (or women) selected to head the staffs of these hospitals should be chosen because of their ability as psychiatrists and training as administrative officers, in this special work. We all will admit this. The next necessity is that politics should not enter into the question when considering the matter of selecting superintendents.

Unfortunately, in West Virginia, the system is to select the heads of practically all the institutions, the hospitals for the insane included, from among the loyal party workers regardless of the qualifications of the individuals so appointed. The present administration is but carrying on a system of its predecessors and one which will continue to exist until the people become awakened to the idea that "the spoils do not belong to the victors" where the question of caring for the mentally ill is concerned.

In our state the care of the mentally ill and mentally defective is woefully lacking. The situation is one requiring a most thorough revision in all respects. This can not be ac-

complished without the active coöperation of the state administration and the medical profession of the state. In this work politics must be forgotten entirely. The sole aim must be to improve the work of the hospitals; to inculcate the idea of endeavoring to cure those whom it is possible to cure, rather than provide simply institutions for custodial care.

In justice to Governor Conley it may be said that he did sanction an investigation of these hospitals by the Public Health Council several months ago. In granting this permission he stipulated that the cost of the investigation was to be paid by the members of the health council as individuals, and that the findings were to be kept from being made public. Very naturally this investigation was not made. One can hardly see how a physician could make an investigation of this situation under such restrictions and retain his self-respect. A report under these circumstances would accomplish nothing for it would pass into innocuous desuetude. In the early days of the present state administration an investigation was made of the institutions by a physician, at the direction of the Governor. The report of this investigation has never been made public. There has apparently been no improvement made in the policy of hospital administration as a result of it.

The president of the State Medical Association, Dr. Hoge, is a member of the Public Health Council. He was sent a special administrative warning that if he participated in the investigation for which permission was given, he must first promise not to disclose any of his observations to the medical profession in his presidential address at the Parkersburg meeting. Under such restrictions Dr. Hoge, naturally, refused to consider taking part in the investigation.

Following the failure of the investigation, Dr. Hoge, as president of the West Virginia State Medical Association, wrote Governor Conley on July 1, 1932, urging that an impartial investigation or survey of the three state insane hospitals be made by some impartial qualified agency from outside the state. "If you will agree to such an investigation," wrote Dr. Hoge, "I feel sure that the West Virginia State Medical Association will defray one-half of the expense."

In another part of his letter Dr. Hoge wrote, "Unless something is done in the very near future to remedy what we consider a very pitiable situation in the state insane hospitals, I can assure you that our State Medical Association expects to exert every ounce of its energy at the next legislative session to correct the evils which we feel now exist. . . . If, however, an impartial investigation should disclose that the insane patients of the state are now getting proper and adequate medical attention, we shall . . . be the first to admit that we have been in error."

To this letter, Governor Conley replied on July 6, in part, "Some months ago I accepted the offer of the Public Health Council for them to visit the state institutions, and until such time as they make their report I see no necessity of going to the expense of inviting out of state persons or specialists within the state to make an examination of such institutions. There are no funds available at the present time for making the examination suggested by you. . . ."

The investigation of the Public Health Council referred to by Governor Conley is the same investigation mentioned above in this editorial.

The Governor of our state knows, or should know, of the deplorable condition existing in the state hospitals for the insane. He should know because he is the Governor, and because he appoints the heads of these institutions. Has the present Governor, or any of his predecessors, ever consulted the medical profession of the state regarding the qualifications of those proposed for appointment to these hospitals? No!

The heads of the various hospitals are members of this Association. They are all good men and are held in high regard by the profession at large. We do not blame them

for accepting their appointments. So long as the hospitals for the mentally ill must remain institutions for incarceration and so long as the system of paying political obligations by the appointment of untrained physicians continues then we can not criticise these, or any other men, for accepting their appointments.

To cast to the four winds a political system built up on the principle that the victors should pay their supporters with appointments, requires a moral courage of rare type. Few men have it.

The purpose of this editorial is to remind the medical profession of West Virginia that we must begin now and strive in every possible manner to bolster up and instill high moral courage into the next administration, whether it be Democratic or Republican, with the wholesome backing of the organized medical profession, in order that it may put forth every effort to establish upon a scientific basis, the care and treatment of the unfortunate wards of the state.

OBITUARY

HARRY LEE BEARD, M.D.

Dr. Harry Lee Beard, of Lewisburg, died at his home there on August 16, 1932, at the age of 63 years. He was one of the most prominent physicians in Greenbrier County and had been active as a member of the Greenbrier Valley Medical Society since 1925, when he affiliated with that organization. He was a member of the West Virginia State Medical Association and the American Medical Association.

Dr. Beard was born at Spring Fork, Greenbrier County, in 1869, the son of John L. and Minerva A. Beard. He studied at West Virginia University and later was graduated from the medical department of the University of Virginia, Charlottesville. During the war he served as a lieutenant in the medical corps.

Dr. Beard never married. He is survived by one brother, Fred Beard, of Pocahontas County. Funeral services were conducted from the residence on August 18 and interment was made in the family plot at Huntersville, near Marlinton.

COUNTY SOCIETY NEWS

MERCER COUNTY

The regular monthly meeting of the Mercer County Medical Society was held on June 30, at 8 p. m., in the directors' room of the Municipal building, Bluefield. There were seventeen members and two visitors present.

A report on the state meeting was given by Dr. W. D. Fitzhugh.

A paper on "Backache" was read by Dr. D. L. Hosmer. This paper was very thorough, Dr. Hosmer covering the subject in a masterly manner. A free discussion by many of the members followed.

This was the last scientific meeting until September.

R. R. Stuart, Secretary.

CENTRAL WEST VIRGINIA

The Central West Virginia Medical Society held its regular meeting at Webster Springs, in the Methodist Church basement, on Tuesday evening, July 12, at 7 o'clock, p. m. Twenty-three members and guests were served a delicious banquet, following which the business session and program was given.

It was decided to hold the next meeting in Buckhannon in October, and Drs. J. A. Rusmissell and E. Walker were appointed to arrange a program.

The guest speakers of the evening then presented the scientific program. Dr. J. U. Rohr, of Charleston, gave a paper on "Special Features of Urethral Stricture," and gave a clinic following the meeting in Dr. J. B. Dodrill's office. Dr. A. E. Amick, of Charleston, presented a paper on "Infantile Diarrheas," which promoted spirited discussion. Dr. O. H. Bobbitt, also of Charleston, read an original and interesting paper on "Pathological Currents and Asthma."

Dr. J. A. Rusmissell, of Buckhannon, acted as chairman of the meeting in the absence of the regular chairman and gave a spirited address on State Medicine.

R. A. McCosh, Secretary.

MARION COUNTY

An interesting meeting of the Marion County Medical Society was held at the Fairmont Hotel at 6 o'clock on the evening of June 28, with a good attendance. A dinner was served prior to the scientific program.

The program was presented by Dr. H. O. Jones, Associate Professor of Gynecology at Northwestern University, Chicago, and consisted of two motion pictures with sound. The first was "Sub-total Abdominal Hysterectomy," and the second was "Anatomy of Female Pelvis and Perineum."

C. T. FRANCIS, Secretary.

MONONGALIA-PRESTON

The annual joint meeting of the Monongalia and Preston County Medical Societies was held at the Hopemont Sanitarium, Hopemont, on July 26 with approximately 100 members and visitors present. This was one of the most successful joint meetings of the two societies since the custom was inaugurated some years ago.

The scientific program consisted of a very fine paper by Dr. F. R. Decker, of Pittsburgh, on "The Surgical Treatment of Supurrative Conditions of the Chest." This was illustrated by lantern slides and moving pictures. Dr. Decker is a very able speaker and his talk was genuinely appreciated by all present. The paper was discussed by Dr. Russell B. Bailey, Wheeling; Dr. C. E. Smith, Hopemont; Dr. H. R. Thomas, Fairmont, and Dr. B. I. Golden, Elkins.

A splendid luncheon was served at the conclusion of the scientific meeting. Most of the visiting physicians came early and took advantage of the opportunity to inspect the Hopemont Sanitarium and consult with their various patients.

The Preston County Society has already made plans for its next meeting which will be held at Hopemont on October 6. Dr. Kennon Denham, of Cincinnati, will be the guest speaker and will present a paper on "The After Care of Tuberculosis Patients and the Responsibilities of the Family Physician." A large attendance is anticipated.

F. D. FORTNE, Secretary,
Preston County Medical Society.

KANAWHA COUNTY

Dedicatory exercises were conducted by the Kanawha Medical Society on July 28 at which time the new Patrick Street bridge in Charleston was officially named in honor of Dr. Spicer Patrick, one of the pioneer physicians of the Kanawha Valley. A crowd of several hundred persons, including many members of the society, turned out for this interesting event. A bronze plaque in memory of Dr. Patrick was erected and unveiled on the bridge by the society.

The annual golf and horse shoe pitching tournament of the society was held with a stag picnic at the Kanawha Country Club on the afternoon of August 4. Dr. H. D. Law won the golf cup and Dr. R. R. Summers won the horse shoe pitching cup for the next year.

The Kanawha Medical Society is now sponsoring a series of radio addresses over Station WOBU, Charleston, each Tuesday evening. Different members of the society are drafted into service to make these radio talks.

A corn roast and picnic for the members of the society and their wives was given at Dr. C. A. Ray's farm at Pocatalico on August 25 with a fine turnout. The afternoon was spent in horse shoe pitching and various old-time picnic games.

The first scientific meeting of the society, after the usual summer lull in activities, will be held jointly with the Parkersburg Academy of Medicine at Spencer on September 12. Dr. B. S. Rankin, Superintendent of the State Hospital at Spencer, will be the host at this meeting.

M. F. PETERSEN, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular August meeting on Friday evening, August 19, at the Hatfield-Lawson Hospital, Logan, with 20 members and visitors present. After the transaction of routine business, including receiving and reading two new applications for membership, the following program was rendered:

Dr. Howard T. Phillips, Wheeling, addressed the society on "Diagnosis and Treatment of the Prevalent Skin Diseases"; and Dr. Wm. P. Sammons, also of Wheeling, addressed the society on "Living Suture Material in the Repair of Hernia."

The members present were greatly pleased with these addresses and many joined in their discussion. Both addresses were well illustrated with lantern slides.

The Logan County Medical Society held its regular July meeting at the Hatfield-Lawson Hospital, Logan, on Wednesday evening, July 20, with 17 members and visitors present.

The scientific program rendered was as follows: Dr. Boyd F. Brown, Huntington, read a paper on "Malarial Treatment of Cerebro-spinal Syphilis." This paper was generously discussed by all the members present. The second paper was by Dr. James Brown, also of Huntington, on "Common Ano-rectal Diseases." Dr. Walter E. Vest, Hunt-

ington, was a visitor at this meeting and invited all members to be present at the State Hospital meeting at Elkins on September 1.

FRED E. BRAMMER, Secretary.

DR. OGDEN IMPROVING

Dr. Chester R. Ogden, of Clarksburg, who was recently operated upon at the Cleveland Clinic, is well along on the road to recovery. Dr. Ogden is now convalescing at Atlantic City and expects to return to Clarksburg about the first of September.

DR. BLANKENSHIP DIES

Dr. Ray Blankenship, of Madison, Professor of Medicine at the University of Wisconsin, was fatally stricken with a heart attack at Huntington on August 23. He was 42 years of age. Dr. Blankenship and his ten-year-old daughter, Betty, were just arriving in Huntington from Wisconsin by automobile to visit with Dr. and Mrs. W. E. Vest when the attack came. Dr. Blankenship died en route to the hospital.

The deceased is well known in West Virginia, having visited his sister, Mrs. Vest, a number of times. He will also be remembered as one of the visiting essayists at the Clarksburg meeting in 1931. His paper, "Medical Aspects of Jaundice," was published in the JOURNAL just one year ago.

A. H. A. CONVENTION

The 1932 annual meeting of the American Hospital Association will be held in Detroit from Monday, September 12, to Friday, September 16, with one of the greatest programs in the history of the organization. A record attendance is anticipated in spite of the depression.

Among the subjects to be covered at Detroit are "Cost Control," "Food Costs," "Planning Hospitals for Children," "Out-Patient Departments for Small Hospitals," and "Lowering or Adjusting Hospital Rates." Outstanding speakers will be Mr. Paul H. Fesler, President of the American Hospital Association; Robert Jolly, Superintendent of the Memorial Hospital, Houston, Texas; Dr. Frederick MacCurdy, Vanderbilt Clinic, New York City; Dr. Henry D. Chadwick, Detroit; and many others.

Various round-table discussions and sectional meetings will go on throughout the convention. The sections include Social Service, Construction, Trustees, Tuberculosis, Out-Patient, Small Hospital, Children's Hospital, Administration and Nursing.

HOSPITAL NEWS

ELKINS HOSPITAL MEETING

The sixth annual meeting of the Hospital Association of West Virginia will be held at Elkins on Thursday, September 1, 1932. An interesting program has been arranged with a number of side diversions for the wives of doctors and hospital heads in attendance. An attendance of at least 100 members and visitors is anticipated.

One of the features of the meeting will be a tea at Graceland, home of former Senator Henry Gassaway Davis, at the close of the afternoon session and preceding the convention banquet. The hostess will be Mrs. Bruce Lee Johnson of Elkins. Mrs. B. I. Golden will have a luncheon at 1 o'clock on Thursday for the visiting ladies at her home in Elkins. In addition, the Davis Memorial Hospital will have a luncheon for all members of the Association between the morning and afternoon sessions.

The address of welcome is to be delivered by Dr. A. P. Butt, Elkins, and the response will be made by Dr. C. R. Ogden, Clarksburg. Dr. Ray M. Bobbitt, Huntington, will serve as banquet toastmaster. Scheduled papers are as follows:

"Relation of the Surgeon to the Average West Virginia Hospital," by Dr. A. G. Rutherford, Welch.

"Balancing the Hospital Budget," by Mr. C. F. Runyon, Charleston.

"The Importance of Oral Hygiene in the Hospitals," by Dr. Edward C. Armbrecht, D.D.S., Wheeling.

"Nursing Facts and Fallacies," by Mrs. Kathryn Trent, President, State Nurses' Association, Charleston.

"Running a Small West Virginia Hospital," by Dr. Ward Wylie, Mullens.

"An Experiment in Paying Hospital Bills on an Insurance Basis," by Dr. R. O. Rogers, Bluefield.

"Relation of the State Hospital Association to the American Hospital Association," by Dr. Paul H. Fesler, President of the American Hospital Association, Minneapolis.

"Some Hospital Problems," President's Address, by Dr. Walter E. Vest, Huntington.

GENERAL NEWS

DYHRE NOT LICENSED

The State Health Department, through Dr. W. T. Henshaw, has issued a warning to all members of the Association against C. M. Dyhre, who is not licensed to practice medicine in this state. According to Dr. Henshaw, Dyhre was graduated from a diploma mill in Kansas City, was convicted for attempting to practice in Ohio, and later came to West Virginia.

Dyhre was recently located at Walkersville in Lewis County but left there a short time ago. Dr. Henshaw would like to know the present location of Dyhre, if he is still in West Virginia.

POSTGRADUATE ASSEMBLY

The International Assembly of the Interstate Postgraduate Medical Association of North America will be held in the Murat Theatre and Shrine Temple, Indianapolis, on October 24-28, 1932. All members of the West Virginia State Medical Association have been cordially invited to attend this meeting.

Among the distinguished speakers on the program will be Dr. E. Starr Judd, Rochester, Minnesota; Dr. John M. R. Finney, Baltimore; Dr. Frank H. Lahey, Boston; Dr. Arthur Dean Bevan, Chicago; Dr. Irvin Abell, Louisville; Dr. William McKim Marriott, St. Louis; Dr. Harold B. Cushing, Montreal; Dr. Dean Lewis, Baltimore; Dr. Hugh H. Young, Baltimore; Dr. Hugh Cabot, Rochester; Dr. George W. Crile, Cleveland; Dr. Henry A. Christian, Boston; Dr. Elliott P. Joslin, Boston; Dr. William J. Mayo, Rochester, and Dr. Harlow Brooks, New York City.

GRADUATE FORTNIGHT

"Tumors; Benign and Malignant," will be the theme of the 1932 Graduate Fortnight of the New York Academy of Medicine to be held from October 17 to 28, inclusive. The medical profession of the country is invited to participate in the intensive two-week study of this important medical and surgical subject.

A full program of clinical demonstrations, lectures and conferences has been arranged to cover all phases of tumors, their diagnosis and treatment.

Concurrent with the Fortnight, and for an added week thereafter, there will be housed in the Academy building an exhibition of anatomical specimens numbering approximately 3000 units. A number of the sections in the exhibition will be subjected to lecture demonstrations at regular intervals.

Ten evening meetings have been arranged during which tumor growths in various parts of the human anatomy will be discussed. Among the speakers are included Doctors W. Gordon M. Byers, Edwin Beer, Charles A. Elsberg, James Ewing, Donald C. Balfour, Daniel F. Jones, Dean Lewis and Francis Carter Wood, and others.

Thirty afternoon clinical meetings and demonstrations have been arranged in eighteen of New York City's leading hospitals, including Bellevue, Lenox Hill, Presbyterian, St. Luke's, Fifth Avenue, Post-Graduate, Neurological Institute, and others.

The profession of the country is invited to attend and to participate in the Graduate Fortnight. There is no charge for attendance at any of the clinics or meetings, but registration is required for participation in the hospital demonstration clinics.

A complete program and registration blank for the clinics and demonstrations may be secured by addressing The New York Academy of Medicine, 2 East 103rd Street, New York City.

PHYSICAL THERAPY CONGRESS

The eleventh annual session of the American Congress of Physical Therapy will be held at the Hotel New Yorker in New York City on September 6-9, inclusive, 1932. The opening day will be given over to registration, business meetings, and inspection of exhibits. The various sections will meet throughout the week. Clinics will be held at the various New York hospitals following the close of the session.

OPHTHALMIC EXAMINATION

The examination of the American Board for Ophthalmic Examinations will be held on Monday, September 19, 1932, at Montreal, at the time of the meeting of the American Academy of Ophthalmology and Oto-Laryngology.

OUNCE OF PREVENTION

Unless much time and effort are devoted to the children who have not been infected with tuberculosis, they will afford a constant stream irrigating the field of tuberculosis. To blight tuberculosis, control this stream. It is the ounce of prevention that protects the child, Dr. J. A. Myers suggests in *Hygeia* as a solution to an important part of the tuberculosis problem of this country.

LIABILITY FOR NEGLIGENCE

An interesting case involving the liability of a hospital for alleged negligence on the part of interns and nurses is cited in the August 20 issue of the Journal of the American Medical Association. The case originated in Wisconsin where a child bled to death in a hospital following a tonsillectomy. Suit was entered against the physician who performed the operation, three interns and two undergraduate nurses.

All of the defendants, except the operating physician, demurred to the complaint on the ground that the duties they were charged with failing to perform were duties which under the law could be performed only by practicing physicians. On this demurrer, the case went to the supreme court of Wisconsin.

The very fact, said the supreme court, that the interns and nurses were in the employ of the hospital in their respective capacities and were assigned by the hospital to the care of the patient is a sufficient allegation that they owed to the patient the performance of such duties as were ordinarily performed by those occupying similar positions in the hospital. The complaint alleged that all the defendants were negligent in certain stated particulars and this, the court held, was tantamount to alleging that the faithful performance of their duties required them to do those things which it was alleged they negligently omitted to do.

The court further held that the duties which the defendants were charged with neglecting were not unlawful. "The law recognizes that a hospital internship of at least 12 months is required before a license to practice medicine may be granted. This is a legal sanction of the performance of such duties on the part of interns as are usually and ordinarily performed by them. The performance of such duties does not constitute the practice of medicine. And so with nurses. Most of them acquire their education through hospital service. Any one who assumes to act as a nurse assumes certain duties and the failure to perform those duties may constitute negligence."

The supreme court, therefore, held that the complaint stated a cause of action against all of the defendants, adding that whether they were jointly liable for their several acts of negligence would more definitely appear from the evidence when the case was tried.

MICROSCOPIC EVIDENCE

Crime detection is a matter of solving a puzzle. The picture is usually there, but putting the pieces together in the right combinations demands skill. More recently the microscope has proved a valuable assistant to the crime investigator because frequently the smallest and least obvious feature becomes the most important. Human hair, fibers and dust particles have proved conclusively the guilt of the person in question.

Col. Calvin Goddard, director of the Scientific Crime Detection Laboratory of Northwestern University, reveals in the September *Hygeia* the following case in which microscopic evidence sought out the guilty person:

"In an . . . unusual case investigated by Mr. Hood, a man had been killed in a shooting affray. His death was not instantaneous, for he evidently had time to draw a small pocket knife and lunge at his adversary as he lay dying on the ground. When officers reached the scene, this knife was found close by the body. It bore blood stains and was identified by friends as the property of the victim. The fact that it had last been grasped by his own hand was neatly demonstrated by Mr. Hood, who photographed the palm prints present on its surface and proved that these had been left there by the papillary ridges on the right hand of the deceased. . . . Careful scrutiny of the blade revealed the presence, in a tiny nick along its edge, of some tiny textile fibres. . . . They were weighted wool of approximately uniform diameter and structure and were dyed in two colors, red and yellow. None of the articles of clothing worn by the dead man contained any such fibres.

"The garments which the suspect had worn at the time of the murder were secured. The fabric of the trousers consisted entirely of red and yellow wool fibres of the same diameter and microscopic structure and colored in the same hues and shades as those which the knife blade had yielded. Once again the chain of circumstantial evidence had been completed."

CITRUS FRUITS

Citrus fruits came first from China and other parts of Asia and a long time ago were introduced into the country near the Mediterranean Sea and then into the western hemisphere. Miss E. M. Geraghty writes about fruits in the series of articles in *Hygeia* on "Foods—Their Selection and Prepation."

MONTHLY MORBIDITY REPORT
BY COUNTIES—FOR JUNE, 1932

	Diphtheria	Influenza	Scarlet Fever	Smallpox	Tuberculosis, All Forms	Typhoid Fever
Barbour	1	..	..	..	12	1
Boone	1	..	..	..	..	1
Brooke	..	..	3	..	..	..
Cabell	2	..	1	..	8	1
Doddridge	1	19	1	..	..	1
Fayette	1	..	1	1	1	2
Grant	..	..	..	..	..	1
Greenbrier	..	..	..	..	..	1
Hancock	..	..	..	..	3	1
Hardy	..	..	1	..	..	..
Harrison	..	..	4	..	..	1
Jefferson	..	..	..	..	1	..
Kanawha	3	..	12	..	4	16
Lewis	3	..	..	..	..	1
Lincoln	..	..	..	..	1	10
Logan	1	..	1	..	..	5
Marshall	..	..	1	..	2	..
Mason	..	14	..	..	..	..
Mercer	3	2	2	..	..	2
Mineral	..	3	7	..	6	5
Mingo	3	..	..	2	2	..
Monongalia	1	..	3	..	1	..
Monroe	..	..	..	..	..	1
Nicholas	4	..	..	..	1	8
Ohio	..	..	3	..	5	1
Pocahontas	..	..	..	..	..	1
Preston	..	..	..	..	..	1
Putnam	2	..	..	..	..	1
Raleigh	1	..	..	..	1	1
Roane	..	..	..	..	..	3
Summers	..	..	3	..	..	..
Tyler	..	4	..	..	..	1
Webster	1	1	..	..	..	..
Wood	..	..	2	..	..	1
Totals	28	43	47	3	48	75

MONTHLY MORBIDITY REPORT
BY COUNTIES—FOR JULY, 1932

	Diphtheria	Influenza	Scarlet Fever	Typhoid Fever	Tuberculosis, all Forms
Berkeley	1	..	..	1	1
Boone	1	..	..	7	2
Brooke	..	..	1	5	3
Cabell	4	..	..	9	8
Calhoun	..	..	..	2	..
Clay	..	..	..	2	1
Doddridge	..	7	..	1	..
Fayette	..	..	1	7	1
Gilmer	..	..	..	4	..
Grant	..	..	..	2	..
Greenbrier	1	..	..	..	..
Hampshire	..	..	..	5	..
Hancock	..	..	..	..	5
Hardy	..	..	..	1	1
Harrison	3	..	3	2	..
Jefferson	1	..	..	..	1
Kanawha	2	..	1	13	4
Lewis	1	..	..	6	..
Lincoln	1	..	..	25	2
Logan	..	..	1	5	7
Marion	1	..	1	..	3
Marshall	..	..	..	1	2
Mason	1	..	..	1	..
Mercer	..	..	..	4	..
Mineral	1	..	2	6	3
Mingo	3	..	1	9	..
Monongalia	4	..	..	6	2
Monroe	..	..	1	2	..
Nicholas	..	..	..	6	..
Ohio	1	..	1	3	13
Pendleton	..	..	..	15	6
Pocahontas	1	..	1	4	..
Putnam	..	..	..	1	..
Raleigh	4	..	1	8	..
Randolph	..	..	..	4	..
Ritchie	..	..	..	1	3
Roane	..	..	..	5	..
Upshur	..	..	..	13	5
Wayne	..	..	..	7	..
Wood	3	..	2	2	..
Wyoming	2	4	..	1	1
Totals	17	11	17	196	73

The West Virginia Medical Journal

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PLEA FOR PERINEAL VERSUS OTHER EXCISIONS IN RECTO-SIGMOIDAL CANCER *

By SAMUEL G. GANT, M.D., LL.D.
New York City

BEFORE considering the surgical treatment I will briefly outline the symptoms and diagnosis of rectal cancer.

SYMPTOMS: The outstanding manifestations of ano-rectal cancer are: Digestive disturbances, pelvic discomfort, constipation, weight and fulness in the bowel, straining, malformed stools, tympanites, abdominal soreness, alternating constipation and diarrhea, offensive discharge composed of mucus, pus, blood and tissue *débris,* partial obstruction, vesical, urethral and prostatic disturbances, marked loss in weight, cachexia, metastasis, fecal incontinence, sphincterismus and excoriation of peri-anal skin caused by the irritating discharge.

In addition to the above, patients usually complain of slight or profuse bleeding, pain in the sacral and pelvic regions and constant desire to go stool unrelieved by defecation.

DIAGNOSIS: Frequently physicians mistake and treat malignant ano-rectal neoplasms for hemorrhoids, constipation, diarrhea, or other recto-colonic disease, until marked loss of weight, cachexia recurring hemorrhage or obstruction are pronounced, by which time the patient is often beyond help. This is inexcusable since by studying symptoms, palpating the perianal region, digitally examining the rectum and inspecting the bowel through the proctoscope, cancer in this region is easily located and diagnosed, and the progress and characteristics of the growth accurately determined.

Carcinomatous tumors which are usually large, nodular, and with broad bases (Fig. 1), have been mistaken for hyperplastic tuberculosis, dermoids, syphilomata and inflammatory deposits resulting from fistula, abscess, parasitic infection and encysted foreign bodies. They are seldom taken for epithelioma, which attacks the lower rectum or peri-anal skin as an ulcer or wart-like excrescence which breaks down and extends by contiguous ulceration (Fig. 3).

Radiographic and fluoroscopic examination are unnecessary for ano-rectal cancers, but are useful in diagnosing the sigmoidal and colonic varieties. Typical benign tumors (Fig. 2) are easily differentiated from malignant neoplasms with finger and proctoscope, but, when adenomas are degenerating,

* Read before the West Virginia State Medical Association at Parkersburg, on June 22, 1932.

† Gant—Diseases of the Rectum, Colon and Anus, 1923

microscopic examination is necessary to determine whether or not they have reached the cancerous stage. Non-malignant are easily distinguished from cancerous tumors by their mobility, the narrow pedunculated attachment (Fig. 2), absence of cachexia,

FIG. 1.—Adenoma (left) with a *pedicle* and carcinoma (right) with *broad base* and crater-like ulcer.

metatasis and loss of weight. Rectal strictures are recognized by the history, slow formation, abundance of cicatricial tissue and ring-like feel given to the examining finger.

The writer's *operability* in 300 cases of ano-rectal cancer reported in 1923† was 65 but is now 75 per cent, owing to his improved diagnostic and operative technic.

FIG. 2.—Enormous adenoma diagnosed by three surgeons as cancer excised under local anesthesia.

With his present method of extirpating cancer, size of the growth and length to which it involves the gut make little difference and all cases are considered *operable* unless structures or organs outside the bowel are diseased. Moderate involvement of the prostate or vagina does not necessary make the case inoperable.

The *mortality* of rectal extirpation is extremely high for the novice and low for the experienced surgeon. The writer's mortality in recent years for perineal excision has been approximately five per cent; in the fatal cases pelvic organs were extensively involved. Death has not followed the extirpation of anal epitheliomas.

The *prognosis* is much better since the writer abandoned other procedures for perineal excision and is now approximately 28 per cent, based upon patients still well and those who have lived five years or longer.

Recurrence is more often observed in patients under 30 than over 50 years of age, is more frequent when connecting glands,

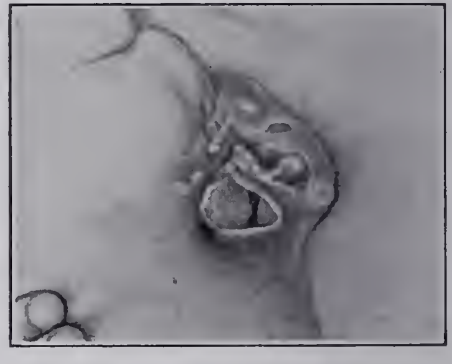

FIG. 3.—Epithelioma that destroyed peri-anal structures and lower rectum.

vessels and lymphatics are not widely removed, when the bowel is severed close to the growth in an attempt to preserve the sphincter or, when the rectum is resected and the operation completed without mobilizing the bowel by dividing the peritoneum.

TREATMENT: *Palliative* measures, viz: Tonics, regulating the diet, procuring comfortable stools with oils and laxatives, relieving insomnia, prescribing aspirin and opiates for pain, employing irrigation to remove irritating discharge and using electro-therapy to minimize discomfort are all justifiable in *inoperable* ano-rectal cancer cases. When extirpation is impracticable and the patient develops acute obstruction immediate permanent *colostomy* is imperative.

NON-SURGICAL CURATIVE AGENTS such as radium, x-rays, slow cauterization and corrosive pastes occasionally destroy *anal* but rarely cure *rectal* cancer. *Roentgenotherapy* diminishes pain but *radium* capsules in the rectum materially increase suffering by causing acute proctitis and spasm of the sphincter and levator muscles.

In two instances (rectal-sigmoidal) the writer has observed alleviation of symptoms and marked reduction in the size of cancers (but not a cure) following the implantation of gold radon seeds into the tumor masses. In three other early cases of anal-epithelioma (Fig. 3), a cure followed direct application of radium to the growth.

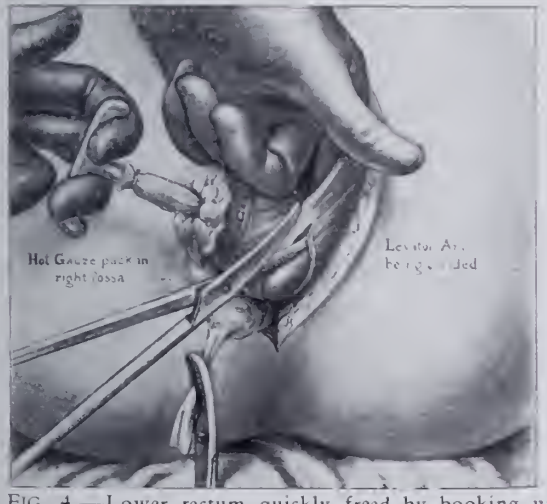

FIG. 4.—Lower rectum quickly freed by hooking up and dividing attached muscles with scissors. Hot gauze pack introduced posteriorly to control bleeding.

Roentgenotherapy is useful for lessening pain, destroying wandering cancer cells prior to and following extirpation of ano-rectal cancer but is not curative in this class of cases.

SURGICAL TREATMENT: Rectal carcinomas have been removed by the *perineal*, *sacral*, *vaginal* and *abdomino-perineal* routes. Experience in more than three hundred rectal excisions has convinced the writer that *perineal* is far superior to other excisions and should be selected in preference to them except where growths extensively involve the upper sigmoid or colon and can not be extripated except with the aid of abdominal exploration, and preferably by resection without colostomy.

Rectal *resection* has been abandoned because fecal fistula usually results and attempts to *preserve the sphincter* have been discontinued since controlling nerves are destroyed

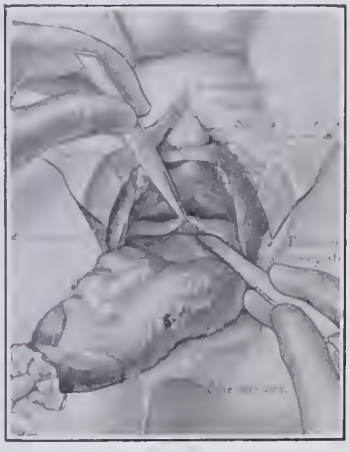

FIG. 5.—Method of freeing upper rectum and severing it from the peritoneum.

during extirpation of the growth. Removal of neoplasms without *dividing the peritoneum* is no longer attempted since it necessitates amputating the bowel at an *unsafe* proximity to the cancer, and does not permit the removal of high perirectal and sigmoidal lymphatics.

With the gut freed from muscles, liga-

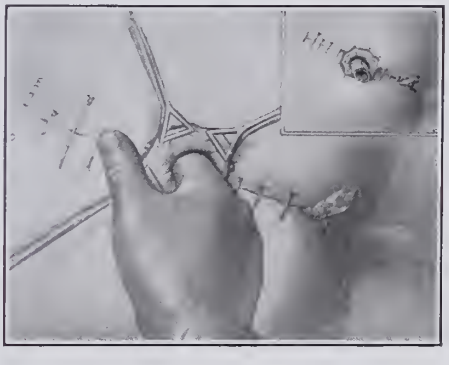

FIG. 6.—Completed perineal excision showing method of closure and position of drain and tube.

ments, fascias and peritoneum, one can easily withdraw from six to eighteen inches of the bowel through the perineal incision owing to mobility and length of the sigmoid flexure. This procedure enables the operator to (a) amputate the intestine well above the growth

whether it involves rectum or lower half of the sigmoid, (b) remove lymphatics, glands and fat lying posterior to the rectum and in the sigmoid meso-colon and anchor the gut at the anal site without tension.

Following three hundred recto-sigmoidal extirpations, recurrence was observed in the sigmoidal region in but two instances though enlarged glands were frequently noted.

Ample experience warrants the writer in holding that such glands are more often involved by simple *inflammatory* than *cancerous* infection. If this is so *pereneal* should take precedence over *combined excision* because in the latter mortality is higher, recurrence equally frequent, the operation requires double the time and is more dangerous because pneumonia, pulmonary embolism, kidney manifestations, peritonitis, paralytic ileus, profound shock, secondary hemorrhage, abdominal adhesions and hernia are more frequent complications.

Most important of all to the patient, however, is that abdomino-perineal extirpation leaves him with a permanent fecal opening in the abdominal wall through which feces involuntarily escape, while after perineal extirpation he is left with an 80 per cent controllable anus at the normal site, which allows him to occupy a toilet seat during defecation.

Combined excision is objectionable because it requires three times as long to perform as perineal extirpation; mortality is much higher; lung, urinary and abdominal complications are frequent, a disgusting artificial anus is left and permanent results are no better than after the perineal method.

VAGINAL has been discarded for perineal extirpation because splitting the vaginal wall and perineum are unnecessary to provide room and the operation is frequently followed by recto-vaginal fistula.

SACRAL (Kraske's) excision has been abandoned because it requires one or two hours to perform, is brutal and bloody, has a higher mortality than perineal excision, is accompanied or followed by profound shock, genito-urinary disturbances, painful and prolonged convalescence, leaves the patient with an inconveniently located uncontrollable anus through which the gut extrudes and a bony stump painful to sit upon.

PERINEAL EXCISION: The patient having been properly prepared, rectum and buttocks, painted with iodine, the following comprise the basic steps in the operation as performed by the writer:

First Step: The anus is first closed by an encircling linen suture, then caught up with volsellum forceps and freed by elliptic perianal incisions. *Second Step:* The lower rectum is detached through deepening the incisions that join in front and behind the anus. *Third Step:* Connecting muscles and fascias are hooked up with the index finger and severed on all sides by bold scissor strokes (Fig. 4), which quickly free the bowel. *Fourth Step:* After traction forceps have been adjusted, using finger tip and blunt scissors the rectum is dissected free from the vagina or prostate. *Fifth Step:* High lying muscles, ligaments and fascias up to the serosa are severed with blunt scissors which point *towards* the bowel *anteriorly* and *laterally* and *from* it *posteriorly* to avoid cutting important vessels. *Sixth Step:* Bleeding is controlled by tightly packing taped-gauze compresses wrung out of *boiling* hot water about the detached gut (Fig. 4). *Seventh Step:* Following removal of gauze packs, the rectum is mobilized by dividing remaining fascias, ligaments and the peritoneum on all sides with blunt scissors guided by the index finger (Fig. 5). *Eighth Step:* Under gentle traction rectum and sigmoid are drawn down through the perineal incision for from four to eighteen inches or more according to indication (length and location of the cancer) as remaining bands and meso-sigmoid are freed. *Ninth Step:* After restraining forceps have been adjusted and the gut amputated with Paquelin cautery, a large rubber tube four inches in length is introduced and the bowel is tightly ligated about it with strong linen. *Tenth Step:* Oozing is controlled with hot packs and spurting vessels are ligated. *Eleventh Step:* Vaseline

covered gauze packs are introduced about the bowel to control bleeding, support the peritoneum and drain the wound. *Twelfth Step:* The bowel is anchored and wound edges loosely approximated to it with from two to four linen stitches. *Thirteenth Step:* The operation is completed by placing perforated gauze pads supported by a T-binder about the tube (with or without cork) (Fig. 6) which is left projecting through dressing (Fig. 6) to minimize danger from infection.

ADVANTAGES OF PERINEAL EXTIRPATION: (1) the operation is performed in twenty to thirty minutes and is applicable to high and low recto-sigmoidal cancers; (2) rectum and lower sigmoid with connecting fat vessels, glands and lymphatics are removed; (3) serious complications of combined excision above enumerated are avoided; (4) bleeding is insignificant; (5) shock is *nil;* (6) convalescence is short; (7) post-operative complications are rare; (8) a nearly controllable anus is left at the anal site; (9) mortality is low, and (10) recurrence is no more frequent than following the combined operation.

The after treatment consists in raising foot of the bed, keeping the patient comfortable with opiates and feeding him soup and eggnogs until removal of the tube and drainage packs on the fifth day, when he is allowed a regular diet. Thereafter soft stools are procured with laxatives and oils; the wound is daily mopped with methylene blue 10 per cent and the finger is inserted from time to time to regulate size of the contracting anal outlet.

CONTINENCE is difficult to obtain following rectal extirpation but in the writer's perineal operations there has been complete control in 10 per cent, continence of solid feces in 80 per cent, annoying incontinence in 10 per cent of the cases. Best results follow when healing is regulated so that an index finger sized opening is left. *Hernia* is prevented by vaselined drainage packs inserted about the bowel.

COMPLICATIONS seldom follow simplified perineal excision. In 350 extirpations (all kinds) the ureter was never injured, the bladder was perforated twice, the vagina was punctured three times and the uretha injured in two instances.

On two occasions segments of the prostate were intentionally removed with the growth. In sixty recent perineal excisions, oozing occurred five times, and copious post-operative hemorrhages twice. These were controlled by repacking the wound in one, and ligating a spurting vessel in the other case. In one instance the superior hemorrhoidal was injured, clamped and the operation completed by bringing the freed gut out through an abdominal incision and forming an artificial anus as in combined excision.

In conclusion the writer wishes to emphasize the simplicity and effectiveness of perineal excision and to recommend the operation over all other procedures employed in the removal of recto-sigmoidal cancer, and would call attention to the fact that on six occasions he has deliberately extirpated malignant neoplasms situated in the lower half of the sigmoid by the perineal route.

Abstract of Discussion

W. P. BLACK, M.D., Charleston: We all know that the rectum is one of the most neglected parts of the human anatomy, by the average physician. He feels that it is somewhat humiliating for the patient to undergo a proctoscopic examination for just a little bleeding, or a little mucous passing from the rectum. It certainly is not fair to the patient who complains of these symptoms to not have a thorough examination immediately. The early diagnosis of cancer is the only hope that a patient has with this disease, and he certainly has hope when men like Dr. Gant, who is one of the leading proctologists of this country, comes to us with a message that is so encouraging and so complete. It certainly looks as if we can promise some of these early cases a cure, which we have been unable to do in the past.

I have been interested in this form of operation for the removal of malignant growths from the rectum, and especially so for the past two years. Dr. Gant has given us a lot of food for thought with this report of three hundred cases.

I might say that his mortality rate in this operation is much lower than I had expected. I believe

most operators who have attempted the perineal route for resection of cancer of the rectum, show a higher mortality rate, and a much higher rate of incontinence with the end results not as good as the one stage abdomino-perineal operation.

My personal experience with this operation, which is only a few cases, has been fairly satisfactory. These patients improved after operation, returned to their homes, and were fairly comfortable from two to five years. One patient died of pneumonia two years after operation, the others died of carcinoma of the liver and intestines. Radium and x-ray were used in one of these cases after operation, but did not prevent metastasis.

I have never attempted to go above the rectum proper in this operation, as I find it takes considerable traction to bring the rectum down sufficient to remove it. I think the combined operation is better when the sigmoid is involved.

Some operators do the colostomy with a long incision in the left rectus, bringing the colon well to the outside, and pulling about one and one-half inches of the skin beneath the colon, and suturing the skin fast to the skin of the opposite side. When the wound has healed sufficiently around the colon to seal it off, the colon is cut in two, leaving the upper opening as a colostomy opening. Then soon as the patient is in condition he does a perineal excision removing all of rectum or sigmoid that is necessary to get the entire growth, leaving a small section of the colon which can drain to the outside, and lets the perineal opening heal completely. This small piece of the colon that is left in practically closes after a few months.

The most difficult job that the physician has is to sell the colostomy to the patient. Once they are reconciled that a colostomy is not so bad, and taught how to care for it, they feel quite satisfied with this arrangement.

The shock of the perineal resection after the patient has recovered from the colostomy, is not near so great as the complete abdomino-perineal resection. It also gives an opportunity to irrigate the lower colon and rectum, making it free from feces and less liable to infection.

Another condition we find, which I wish to mention here although not necessarily malignant, is the chemical stricture which is the result of the reckless and unskilled use of the needle, and solutions in treatment of hemorrhoids.

ROLLA CAMDEN, M.D., Parkersburg: Dr. Gant has said everything, and we can consider ourselves fortunate in having him with us. He has been doing this work so long that anything he says carries a great deal of weight. Thirty-one years ago I first studied under Dr. Gant at the Post Graduate Hospital in New York City.

Of course, the decision as to choice of operation is going to depend on the location and accessibility of the growth. Yesterday I had Dr. Gant up to my office to see several cases of rectal cancer. In one of them the growth was up about the recto-sigmoid or possibly the lower end of the sigmoid, and he said he would not attempt to operate upon it by the perineal route, but from the upper route. The other man had a cancer low down, but it was so extensive that it passed through the rectal wall, and there is not much hope for anything to be done when they do that. However, Dr. Gant did advise colostomy in that case in an effort to extend the man's life and to make him more comfortable.

DR. GANT (closing the discussion): Regarding anesthesia I prefer *general* to *spinal* when extirpating ano-rectal cancers. I have encountered no difficulty in excising malignant growths of the rectum and lower sigmoid by the perineal route. I resort to resection when cancer is located in the upper sigmoid or colon and perform the one-stage operation. Rarely do patients die from perineal extirpation unless the cancer extends to other organs because it requires less than half an hour to perform and shock and other serious complications are practically *nil*.

INTESTINAL FLORA

W. Schreiber of the Hygienic Institute of the University of Frieburg (*Medizinische Klinik* 27: 1452, Oct. 2, 1931), after collecting from the literature a number of reports made by clinicians who had noted good results in the treatment of intestinal catarrh from the use of pure apple diet (at first suggested by the laity and later tried by physicians), makes a study of the use of the apple minus peel and core on intestinal flora and clinical symptoms in actual cases. In his summary he notes that no effect at all is produced on the number of colonies of *B. coli* encountered but the other pathogenic organisms of the thyroid and dysentery groups are reduced concurrently with a prompt and marked improvement in symptoms.—*Texas Medical Journal.*

ALLEVIATING PAIN AND SHORTENING LABOR *

By WALTER W. POINT, M.D.
Charleston, W. Va.

All through the ages man has endeavored to alleviate the pains and travail of childbirth. Probably the first agents to be used were the highly volatile aromatic vapors loosed in the lying-in chamber. Then followed crude narcotic potions administered by the ancients. Theocritus mentions them as given to Antigone. The first really scientific agent in obstetrics was ether used by Sir James Y. Simpson, according to some authorities, on January 10, 1847. Channing claims that it was used in America for the first time in obstetrics by N. C. Keep, of Boston, on April 7, 1847. In November, 1847, Simpson discovered the anesthetic properties of chloroform and discarded ether in obstetrics. The use of an anesthetic in labor spread very rapidly after Victoria, Queen of England, had enjoyed its benefits in 1853 and 1857.

Among the many contributions to surgery none has exerted a more beneficial influence towards its improvement and progress than the introduction of anesthesia for the relief of pain incident to operative procedures. No less important, at least from the obstetrician's point of view, has been the application of anesthesia to the ordeal of childbirth. Sir James Y. Simpson, as early as 1847, speaking in defense of painless labor, said that "pain in excess is destructive, and even ultimately fatal, and that the great pain accompanying parturition is no exception to this general pathological law." If this be true, is it not demanded that we shall employ all means possible for the alleviation of pain incident to childbirth, consistent with the safety of the mother and babe?

In former years many reasons were advanced by the laity, the profession, and the clergy against the use of such agents. Even today there are those among us who deny the necessity of ameliorating the pain of childbirth. But notwithstanding this opposition during the past sixty-five years, many drugs have been employed for this purpose, each of which has had its ardent supporters. Yet the ideal agent remains to be discovered.

Of the many drugs employed as anesthetics or analgesics during labor, ether was the first successful one in that it relieved the pain yet did not interfere with the natural course of labor itself. Chloroform came into pronounced favor in 1853 and to the present day is probably the universal agent for relieving pain in the later stages of labor. In 1878 Pinard wrote an elaborate monograph entitled, "The Comparative Action of Chloroform, Chloral, Opium and Morphine on Women in Labor." Many of his deductions remained unquestioned and from his experience he concluded that chloral was of little value, while morphine was usually useful, yet not so much so as chloroform.

Paul Bert, in 1878, recommended nitrous oxide, if given with oxygen, for long anesthesia, but it remained for Klinkowitch of Petrograd, a few years later, to demonstrate its efficiency for the mitigation of pain in labor. Doederlein in 1886 also referred to nitrous oxide-oxygen in obstetrics but used it only to procure surgical anesthesia. This method of anesthesia then apparently disappeared from general use until Webster, of Chicago, in 1905, used it to obtain surgical narcosis in certain abnormal obstetric cases, notably cesarean sections. Later he and his associate, Lynch, of Chicago, began the use of nitrous oxide-oxygen routinely to produce analgesia or obstetrical anesthesia. Since then it has steadily gained in favor and is generally considered to be the anesthetic of choice in

* Read before the West Virginia State Medical Association at Parkersburg, on June 22, 1932.

deliveries except for its cost and the requirement of a trained anesthetist.

In 1885 cocaine in varying strength solutions was applied to the cervix and external genitals by Doleris and others in France. In the same year, Tuffier and Malortic used cocaine, and later, stovaine, intraspinally. These proved unsatisfactory, for aside from the danger of the drugs themselves, the analgesia lasted only from one to one and a half hours.

In 1902, Scheiderlein, and in 1903, Von Steinbuchel began to employ morphine-scopolamin for anesthesia in obstetrics. From then until now, there has been a varying activity in this field. In 1906 Kronig and Gauss reported their first series of five hundred cases of scopolamin-morphine analgesia with the result that the method has been ever since the subject of discussion and investigation in all parts of the world. This has been particularly true in America for the past several years.

The common fault to be found in all of the above mentioned agents, with the exception of morphine and scopolamin, was that they did not relieve the pain of the earlier stages of labor—they were anesthetics. Morphine and scopolamin exhibited the disadvantages of perineal delay and asphyxia of the newborn child.

About 1923 Gwathmey published the results of a long series of cases in which he took advantage of the synergistic effect of morphine, ether and magnesium sulphate. The method, which we all know, and which many of us have used for years, consists of the use of morphine and magnesium sulphate intramuscularly and the rectal instillation of quinine, ether and a bland oil. Some users have substituted hyoscin and others scopolamin or pantopon for the initial morphine content with good results.

Probably no method yet introduced as an analgesic in labor has had the widespread use that the Gwathmey method has enjoyed. Within the past year Abbott Laboratories have introduced a modification of the Gwathmey synergistic method in a preparation called Barb-Eth-Oil. This preparation contains no magnesium sulphate and in lieu of the initial Gwathmey dose of morphine uses neonal and nembutal, barbituric acid derivatives.

For a number of years certain workers on the continent had been experimenting with barbituric acid derivatives as analgesic and hypnotic agents for both surgery and obstetrics. Out of the tremendous amount of labor involved there emerged, a few years ago, several outstanding barbituric acid combinations which have proved their definite value in both surgery and obstetrics. Among these are Amytal and Pernocton. About this time there also appeared avertin, an alcohol derivative, and thymophysin, a mixture of thymus extract and posterior pituitary extract. While thymophysin is not an analgesic or hypnotic, yet it materially shortens labor and for that reason is mentioned.

From the fact that our journals of surgery, obstetrics, and anesthesia have from time to time contained a rapidly increasing number of articles on the use of agents developed to alleviate pain in all stages of labor, and further, because the lay magazines, health columns, etc., have greatly educated the child-bearing woman to inquire and even to demand relief from suffering in childbirth, let us briefly review various agents at our command.

Undoubtedly the insistent and growing demand of the child-bearing woman for relief as promised by such articles has, at times, resulted in tragedy and near-tragedy because the physician in the individual case may not have been well versed in the technique of the particular "painless childbirth" method but may have tried it as a matter of pride or because his patient might think him not abreast of the times. Hardly any one of the methods so far evolved can be classed as entirely "foolproof." A knowledge of the chemical make-up of the agent, its effect on

labor itself as well as its effect on the vital functions of both mother and child, should be thoroughly understood before its use is attempted. Even then a distinct margin of safety, because of idiosyncrasy, error as to body weight or of judgment, should be allowed.

In considering briefly the various agents now in use as analgesics, hypnotics or anesthetics in labor, let us start with the inhalation anesthetic group. First of all comes ether, not because of its transcendent value but because of its priority of discovery and use. Its chemical composition and physiological action need not be discussed. However, no other general anesthetic has a wider latitude of safety, that is, the difference between the anesthetic and the toxic dose is greater. Greater muscular relaxation is obtained with ether than with nitrous oxide, ethylene, chloroform or ethyl chloride. Pulse, blood pressure and respiration are all above normal during surgical anesthesia. However, its contraindications in chest conditions, its slow effect on the active pain with resultant prolonged anesthesia between pains, and its tendency to nausea postpartum are disagreeable factors, in addition to the impropriety of giving it in the early stages.

Chloroform for years was universally used in obstetrics, but in recent years the younger members of the profession have been taught that it is too dangerous to be considered and a majority of them enter interneship or active practice without any knowledge of its administration, or even of its properties. This, I feel, is a mistake. Next to the inhalation gases, I value chloroform as the anesthetic of choice in the average normal case of obstetrics because of a number of reasons. If properly administered its action is safe, quick, pleasant, effective, and leaves no disagreeable after-effects for the patient. It is also economical, to be found at every drug store and is not so volatile as ether in hot weather, therefore more efficient and less wasted. No trained anesthetist is required and the patient practically always awakens quickly and usually with complete control of her mental processes.

Disadvantages claimed for it are its danger of circulatory collapse, its degenerative action on the liver and kidneys of the mother and even possibly on the liver of the newborn. It slows up the labor probably, but not more so than ether. Like ether, but probably to a slightly greater extent, the newborn may be anesthetized at birth; but the average case will not require enough chloroform to cause this complication.

Nitrous oxide-oxygen, except for its expense to the patient and its requirement of a trained anesthetist, is undoubtedly the anesthetic of choice. It is safe, easily controlled, quick, and while not so good in completely relaxing the patient for versions, operative deliveries, etc., as is ether or ethylene-oxygen, ether may be very easily combined with it to secure satisfactory results.

Ethylene-oxygen mixture exhibits one or probably two reasons for not being the anesthetic of choice over nitrous-oxide—its inflammability and danger of explosion, plus its tendency to result in free bleeding. Both gases, ethylene and nitrous oxide, undoubtedly reduce the oxygen carrying power of the blood and this point should be remembered when danger of asphyxia in utero exists. Like chloroform, the gases do not cause the loss of body heat as does ether.

Spinal anesthesia, in my opinion, can never be used generally in obstetrics. However, it has a definite, valuable place in those cases with severe pulmonary, cardiac or renal complications, with or without toxemia. With increasing refinements in the agents used and safeguards against the danger in hypotension cases, spinal anesthesia is gradually becoming more popular.

Caudal anesthesia is too dangerous to both mother and child and too variable in its effects to be seriously considered when we have other methods equally as efficient but without its disadvantages.

There is one drug that has always been held in high esteem by the general practi-

tioner and, in fact, by many limiting their work to obstetrics, for its value in pain relief in labor. I speak of morphine, the old standby of us all. In this time of new analgesic discoveries, practically all of which must be prepared, used and watched with great caution to such an extent that their practical use is denied the general practitioner, morphine has been more or less neglected and a wonderful agent has been largely put on the shelf. DeLee, in an article published last March, makes a strong plea for its use in labor. Very few physicians fail to have a supply of morphine in their hypodermic kit. It is easily administered, constant usually in its action, and in addition to assuaging the sharp, cutting pains of the dreaded first stage, gives mental and physical rest to the patient with the result that when the effects have worn off, she starts anew with stronger, more effective pains, a refreshed and rested mind, with very often a cervix that during the first few hours of its rest has magically changed from a rigid, stubborn os to a supple and greatly dilated one. Morphine also has the marked action especially in the "tetanic labors," which we have all seen, of lessening the dangerous pressure—as much as forty-five pounds to the square inch—on the fetal head, and also of relieving the compression of the placenta which does occasionally cause fetal death. Its use also calls for less terminal anesthetic. Perhaps some of you may think me extravagant in the foregoing claims, but I am sure that many of you can readily bear me out in your personal experiences.

Morphine is not perfect and, therefore, not without its dangers and limitations. Most of the authorities are of the opinion that the narcotic effect on the newborn is grossly exaggerated. Personally, I have given morphine through error in judgment of the stage of dilatation or of the labor powers at varying times—5, 10, 20, 30, 40 minutes before actual delivery and have but rarely seen narcotization of the babe. This is especially true of the Gwathmey method where the magnesium sulphate is supposed to markedly prolong the action of the morphine. We have all given very large doses in eclampsia, yet it is unusual to have a stillborn.

Morphine undoubtedly in some cases delays the first stage. On the other hand, we have all seen morphine occasionally act like thymophysin, with its marked increase in the severity and length of the dilating pain, and even like pituitrin with its increase in expulsive force. Whether the effect is to rest the mother and thereby relax the cervix, resulting in quicker dilatation, or, by its much less common action, to increase the pain she feels, labor is shortened.

Local anesthesia is advocated by some but is valuable in the second stage only. Some other form of analgesia is used for the first stage and one-half per cent novocain with adrenalin is injected into the vulvae, perineal skin, perineal body and levators. Its advocates claim that it is safe, that it is painless, the outlet is much more relaxed, and that perineotomies, episiotomies and other perineal work can be done without additional anesthesia. The technique is simple and can be done easily in the home. However, the chief objection is based on the danger of infection and the method has never enjoyed a very wide usage.

Scopolamin, combined with other agents, as morphine, pantopon, or sodium amytal, is enjoying an increased usage in all parts of the country. What is still known as "Twilight Sleep," the original Freiberg "Dammerschlaf" of many years ago, has fallen into disuse, partly because of its dangers to both mother and babe and partly because of the impracticability of its proper administration except in especially equipped maternities with specially trained attendants. However, scopolamin in combination with morphine, sodium amytal or pantopon is safe, efficient and trustworthy. Let us take sodium amytal and scopolamin as an example. Early in labor, with only a finger or more dilatation, nine grains of sodium amytal by mouth are administered. One-half hour later, 1/100 grain of scopolamin is given subcutaneously.

Great relief is experienced and the patient usually sleeps for several hours. In a very heavy patient, twelve grains of sodium amytal are given instead of nine. If, at the end of several hours, the patient becomes restless, she is given three grains of sodium amytal and 1/150 grain of scopolamin. This practically always carries her to the second stage when anesthesia is administered for delivery.

The advantages are several. In the first place, it gives complete amnesia in the majority of cases. Secondly, it can be given much earlier than scopolamin and morphine or scopolamin and pantopon and with much better results. Thirdly, it can be given later in labor without untoward effects. Fourthly, it is best given early in labor. Fifthly, it does not slow labor. Sixthly, it does not affect the baby. Seventhly, it saves general anesthesia. Eighthly, the patient sleeps several hours after delivery.

Its disadvantages are practically nil. Some patients become restless especially during the second stage and must be watched constantly. A little general anesthetic quiets them and labor goes on smoothly.

Scopolamin and morphine or scopolamin and pantopon work similarly to scopolamin and sodium amytal but have more distinct disadvantages. They may stop labor in the first stage. If given late, they may produce a sluggish baby. They are used chiefly for primiparae. They are not so effective in prolonging amnesia.

Probably no single method of obstetrical analgesia has so many ardent supporters as the Gwathmey synergistic technique. This method was worked out by Gwathmey and his co-workers in 1923 as being the best and most satisfactory of all the fifteen to twenty combinations of various drugs they tried over a period of months. The formula consists of quinine alkaloid, gr. 20; alcohol, min. 40; ether, oz. 2½; and petrolatum liquid, or olive oil, q.s. ad oz. 4. The final technique involves (1) three intramuscular injections of magnesium sulphate, each of 2 cc. of a 50% solution; (2) an injection of morphine sulphate ¼ gr. is given with the first injection of magnesium sulphate only; (3) a rectal instillation of the above formula. The efficiency of this technique is based on the synergistic action of magnesium sulphate and ether, and of the synergism of morphine and magnesium sulphate. Those who criticize the Gwathmey method almost always do so because of the morphine content. In a personal letter from Dr. Jellinghaus, probably Dr. Gwathmey's closest co-worker in developing this technique, he stated that he had no fear of morphine in the Gwathmey technique, that he had used it in more than a thousand private cases with no bad results and that, through mistake, it had been given in ¼ grain doses one hour, one-half hour, etc., before delivery, and no harm resulted. Harrar, in reporting over 6,000 cases, states there was no increase in the fetal asphyxia or in the stillbirth rate. Personally, I used the technique in over 300 cases beginning in 1923 with some of the materials compounded at the Lying In where I was doing some work and later purchasing it in more convenient form from a commercial house. In not one case do I remember any asphyxia or stillbirth as a result of the method.

Quinine is a safe drug and its inclusion in the formula is absolutely necessary for success. Its action is to stimulate the contractions and increase the tone of the uterus, according to Sollman, who further states that it intensifies the contractions, if weak.

The qualities of ether as an inhalation anesthetic have been enumerated above and repetition is unnecessary. However, there are several others when given rectally, namely: it does not cause nausea and vomiting; the relaxation of muscles, including the cervix uteri, is increased; and the higher cerebral centers are never so deeply affected as they are with inhalation ether.

Liquid petrolatum, or olive oil diminishes the concentration and prevents irritation. True, we have all seen patients complain of a certain degree of burning in the rectum, yet it soon subsides. Gwathmey states, in his

review of over 20,000 cases at Lying In that it had never been necessary to wash out a rectum for relief and that less than a dozen cases of slight diarrhoea or bloody stool had occurred in the entire series. Only sufficient alcohol is used to dissolve the quinine.

The actual technique of administration is as follows: When the pains are at least at five-minute intervals and lasting 40 seconds, and the cervix is dilated at least two fingers, a cleansing soapsuds enema is given until the water returns clear. The first intramuscular injection of morphia gr. 1 6 to ¼ with 2 cc. of a 50% solution of magnesium sulphate is then given deep into the gluteal muscle. The patient is then kept quiet in a darkened room. Twenty minutes later a second intramuscular injection of 2 cc. of magnesium sulphate *without* the morphine is given. This is given whether there is sedation or not.

Next comes the rectal installation. Do not give too soon. If the effect of the magnesium sulphate-morphine injections is sedative, wait until the effects are almost worn off. The ideal time is when a primipara has about three fingers dilatation. Details of the procedure are not permissible here because of lack of time, and implicit directions are enclosed with each treatment. Give the solution very slowly and with a sterile towel as a pad, exert firm pressure against the anus for several pains. A third intramuscular injection of the magnesium sulphate is then given and the patient allowed to assume any position she desires in bed. Keep her quiet as before, and do not make rectal or vaginal examinations too soon after instillation is completed.

The patient is usually drowsy and sleeps lightly between pains but consciousness is not entirely lost. The presence of a uterine contraction is evidenced by restlessness or other slight signs of her suffering and she again dozes.

The obstetric side of the case and the progress of labor must be closely watched and must be managed just as though no analgesic has been used.

If labor is prolonged and the patient again begins to suffer, the instillation is again made, using but 10 grains of quinine with 2 cc. magnesium sulphate injection. This may be repeated every three hours from the time of the initial instillation.

As a result of the synergistic method, a minimum of inhalation anesthesia is required, gas being the first choice. Chloroform should not be used. If too much inhalation anesthesia is used, the baby may be born deeply anesthetized. Variations in the above technique will occur to the physicians who use the rectal analgesia as their experience with it widens.

The advantages of this method are many. Pains are relieved greatly in 85% of the cases. There is no increase in the fetal asphyxia or in the stillbirth rate. There is no prolongation of the perineal stage or in the incidence of forceps delivery. It can be used in abnormal cases as well as in normal cases. The only contraindications to its use are uterine inertia, chronic colitis, true diabetes, and perhaps auditory disturbances. The four drugs required are easily available everywhere, and the applicability of the method is much greater than that of scopolamin amnesia. It can be safely used in the home.

The disadvantages are not so numerous or so serious. It is too time-consuming for short, quick labors. The instillation, unless given with close attention to details, may be expelled. The intramuscular injections, unless given carefully, may result in a necrotic abscess. The patient occasionally becomes irrational and noisy.

Within the past year Barb-Eth-Oil (obstetrical) has been placed on the market as another analgesic for use in labor. The formula as worked out by Dr. M. L. Axelroad, is a combintaion of quick-acting and slow-acting barbiturates, ether, quinine, and mineral oil. Its composition is the same as that of the Gwathmey instillation formula except

that it might be vulgarly termed a "one shot" analgesic, in that there is no intramuscular injection of the primary morphine-magnesium sulphate followed at definite intervals by two successive magnesium sulphate intramuscular injections. Instead of the intramuscular injections the barbiturates, N-butyl-ethyl barbituric acid (neonal) 5 grains and ethyl (1 methyl-butyl) barbituric acid (nembutal) grains 8, are incorporated in the 4-ounce mixture which is administered exactly as is the Gwathmey instillation formula. One difference, however, exists as to the time factor. Barb-eth-oil may be given just as soon as labor is definitely established regardless of the dilatation stage of the cervix. It should not be repeated until the patient has reacted.

It also differs from the Gwathmey method in that the dosage is based strictly on the body weight of the patient. Patients weighing over 130 pounds receive the entire four ounces; between 130 and 100 pounds, three ounces; below 100 pounds, two ounces.

Contraindications for its usage are about the same as those given for the Gwathmey technique or, in general, any poor anesthetic risk.

The advantages of this method over the Gwathmey method are its simplicity of administration; its availability earlier in labor; the absence of hypodermic injections; and the saving of time.

The only probable disadvantage is that of safety. To date I have used it in eight cases only and have experienced no asphyxia or stillbirths. However, one newborn baby required carbon dioxide-oxygen inhalations for a short time only and experienced no further trouble.

My limited experience with this analgesic agent does not permit me to give any worthwhile opinion as yet, but so far my impression is that it has undoubted value.

Another preparation of the barbituric acid group used in obstetrics the past year is sodium-iso-amyl-ethyl-barbiturate, commonly called sodium amytal. This preparation was synthetized in 1923 and was described as the most active hypnotic of the dialkyl derivatives of barbituric acid. The drug is given orally, by rectum, intramuscularly or intravenously. It is also given in combination with scopolamin, with morphine and with magnesium sulphate. Practically all cases require a general anesthetic during the birth stage and nitrous oxide-oxygen is probably the most satisfactory.

Lack of time precludes a detailed description of its administration by the various routes or in combinations, so let us take one method as an example—that of oral administration with the use of nitrous oxide-oxygen for the actual delivery. As soon as the patient is definitely in labor, from 12 to 15 grains are given by mouth and she is kept as quiet and as undisturbed as possible. Within one-half hour its action is in effect and the patient becomes drowsy and sleeps between pains. She may be aroused but coöperates rather poorly. Pulse and temperature show no change and the blood pressure may drop as much as 10 mm. The effects average two hours duration and when the patient shows signs of a return of pain, six grains may be given. If the labor is unduly prolonged, another six grains may be given several hours later. During the second stage very poor coöperation is the rule, yet there is no increase of the length of the second stage. The actual delivery is characterized by extreme restlessness and anesthesia is best given only at this time, as even small amounts of nitrous oxide will stop the pains. Advantages of the method are as follow: It is easily administered. Labor is apparently not prolonged nor do operative deliveries increase. No postpartum hemorrhages occur. No untoward effect on the baby is noticed. Complete amnesia and a moderate degree of analgesia may be secured in the vast majority of cases. As much as 30 grains may be administered with safety. It reduces markedly the amount of general anesthetic used.

Its disadvantages may be stated as follow: The patient must be constantly and carefully watched because of the marked variations in

susceptibility and the fact that definite idiosyncrasies do occur. Anesthesia can not be relied upon. Restlessness is very pronounced and is probably the greatest drawback.

Still another barbituric acid derivative—pernocton—is coming into wide use as an obstetrical analgesic. Chemically, it is a 10% solution of the sodium salt of the secondary butyl-B-bromallyl barbituric acid and was first investigated by Bumm, of Berlin, in 1926 and 1927. Since then foreign medical literature has shown a tremendous development in its use but it was not until 1930, when Brown, Moloy, and Laird, of Sloane Hospital, reported their series of 153 cases, that it was taken up in this country.

The patient must be well established in labor with strong uterine contractions and at least 2 cm. dilatation before its administration is indicated. It is given universally by the intravenous route and the dosage is based on the patient's body weight, approximately 1 cc. for each 30 pounds being the accepted dosage. It is furnished in ampules containing 2.2 cc. and 1.1 cc., and since the 10% solution is hypertonic and strongly alkaline, it must be given very slowly—never more than 1 cc. per minute by the watch.

At the end of the second cc. sleep begins and rapidly progresses into a deep physiological slumber attained by the time the injection is finished. Similar to all other methods of hypnosis in labor, psychological preparation of the patient is a valuable aid. The duration of this amnesia and hypnosis is from 2 to 4 hours. If upon awakening, examination discloses incomplete dilatation with a probable interval of 3 to 4 hours before delivery, 2 cc. is given with excellent results. This auxiliary dose should not be given before 2 to 3 hours after the initial dose and should be injected at the rate of 1 cc. per 2 minutes instead of 1 minute.

As soon as dilatation is complete and expulsive contractions occur, nitrous oxide-oxygen is administered with each pain and when delivery is imminent, deep anesthesia is given as in other methods. It must be remembered that pernocton is of no value in the second stage.

The advantages of pernocton are as follow: Properly given, it is perfectly safe as an analgesic. It causes no depression of the vital centers and is quickly eliminated. Pernocton has no narcotic effect on the baby. It is efficient when used only in lieu of narcotics. Its amnesic effects are very constant. It is easily administered. It does not prolong labor.

Its disadvantages are: A varying degree of restlessness, some patients requiring restraint. The patient should always have an attendant at her side. No specific counter-active drug for overdosage has been found. However, the margin between the lethal and the therapeutic doses is very wide. Coöperation on the part of the patient is greatly diminished.

Still another analgesic for rectal administration coming into extensive use in surgery and less so, in obstetrics, is tribromethyl alcohol, commonly called avertin. It was first produced by Willstaetter and Düisberg in 1923, and on the continent has been widely used. American medical literature shows an interesting number of articles on its use, particularly in surgery.

It is furnished in bottles containing 25 cc. and 100 cc., together with a vial of congo red aqueous test solution (1:1000) with a test dropper. Since the powder is very slowly soluble in water it is supplied in a concentrated solution in amylene hydrate, containing 1 gram in each cubic centimeter.

The preparation of the solution for use must be carefully done and directions carefully followed. Lack of time precludes giving the directions here and the user is referred to instructions and cautions accompanying the trade package.

While some use it as an analgesic in the first stage of labor, it is commonly considered to be of value only in the second stage. The dosage, like pernocton, is based on body weight, latitude being allowed either way by the obstetrician according to his experience and to the type of patient whom he is treat-

ing. The average is probably 100 milligrams per kilogram of body weight, and its effects last usually from an hour and a half to two hours.

Administration is started when dilatation is complete, the tube being introduced beyond the advancing head. For actual delivery a very small quantity of general anesthesia is usually necessary, although many cases require no anesthesia.

Its advantages are several: Its action is quick and definite. It is particularly indicated in the apprehensive or excitable case. It does not adversely affect the baby. It does not appreciably retard labor. It requires very little terminal anesthesia. It is germicidal in its action. There is no excitement stage and no unpleasant awakening.

Its disadvantages are as follow: It should not be used where bilateral kidney damage exists, in lesions of the rectum, severe organic disease of the liver, advanced pulmonary tuberculosis, acidosis, grave cachexia, or severe blood diseases. It is not so easily prepared. The dosage must be very accurate. The tongue must be watched to prevent swallowing. It can be used only as a basal anesthetic.

So far, in the presentation of this subject, I have described only analgesics, hypnotics, narcotics, and anesthetics. But there is one outstanding agent used solely (if used properly) to shorten labor. I refer to thymophysin, and the several similar preparations now available as American products. There are two ways of lessening the pain of labor. One, to alleviate the pain by certain substances or by certain methods that, broadly speaking, do not affect the duration of the process; the other, to actually shorten the length of labor, chiefly by accelerating dilatation, the most painful part of the labor period. We can dismiss with condemnation manual dilatation, instrumental dilatation, Dühressen's incisions, and dilatation by bags except in those cases which present very special indications, as they are dangerous in more ways than one. Certain oxytoxic drugs have always been used and among these are quinine, which in small doses is ineffectual and in large doses is productive of disagreeable symptoms. Pituitrin, in anything but very small dosage, is dangerous to both mother and fetus because of its tetanic action and violent expulsive effect. In small doses at regular thirty-minute intervals, it is often ineffective or the first dose may be effectual while the third or fourth may be unproductive. Consequently, the presence of the physician throughout the process is mandatory. The ideal agent, then, would be one which would increase the ordinary contractions numerically as well as their intensity. They should, however, remain physiologic and rhythmical without exhausting the uterine musculature during the expulsive stage and not result in secondary uterine atony postpartum, as occurs with pituitrin.

In 1925 Temesváry, after experimenting with nearly all of the glands of internal secretion on pregnant animals and with surviving organs, found that thymus extract was most suitable for this purpose. Its effect was not specific, as is that of pituitrin, and was not intense. Contractions from the stimulus of thymus extract, although not intense, were more rhythmical and lasted longer than from pituitrin. Other observers had found that thymus extract also possessed a specific by which the exhaustion of not over-fatigued muscles could be delayed, thus acting as a preventative. Utilizing both extracts, thymus and pituitary, Temesváry finally successfully combined them and afterwards employed the resultant drug with good effect in human labor. The preparation was then standardized and marketed with the trade name as we know it today.

The ideal time of employment should be the first stage. It should not be given when the uterus is exhausted because it will be ineffectual. The better plan is to rest the uterus with morphine and then use thymophysin. We all know that text-books give the average length of labor in primiparas as twelve to eighteen hours and in multiparas as ten to twelve hours. With thymophysin,

labor lasts from three to five hours in primiparas and from two to three hours in multiparas. Where a quick delivery is essential to the best interests of both the mother and the child and there is but small dilatation present, thymophysin might be called the "medicamental dilator" just as Bumm has called pituitrin the "medicamental forceps." In such cases a prolonged dilatation stage following premature rupture of the membranes, with its attendant dangers to mother and child from prolonged pressure as well as greater likelihood of infection; eclampsia, where quick delivery may mean a live baby; marginal placenta previa following manual rupture of the membranes; and slightly contracted pelvis, where head adjustment depends so largely on the intensity of the pains, are indications for its use in larger dosage than given in normal cases.

Several years ago I began to receive samples of the original thymophysin and reprints on its use in thousands of cases. In reviewing these reprints, all of which were from European sources, I could not but be favorably impressed with the consistency of the good results obtained by all of the authors. However, I was afraid to try it until some of our own leaders in obstetrics had reported their experiences. Finally, Haynes, of Detroit, in 1928, reported his series of fifty cases. Jarcho reported a smaller series in 1930 and Temesváry a large series in February, 1930. On April 27, 1930, I used it for the first time in a case which three times previously had proved to be stubborn and tedious. No abnormalities could be found and I ascribed the difficulty to some defect in the musculature. Eight minims were injected intramuscularly in the gluteal region after everything was prepared for delivery. Within three minutes satisfactory pains began. Chloroform was administered with each pain and exactly twenty-three minutes after the injection the fetal head presented at the vulvar orifice. Anesthesia was deepened and a normal delivery was accomplished with two expulsive pains. The babe cried lustily and immediately, and the placenta was delivered from the vagina with no uterine pressure six minutes later. The mother has time and again since expressed her gratitude for such quick relief from her usual tedious, painful labor. I then went to the hospital where a primipara was in well developed labor and repeated the same process, however, reducing the dosage to six minims. The same type of labor promptly resulted and a normal delivery was accomplished within an hour. Enthused with the results obtained, I began to use it with increasing frequency and to date the series includes 268 cases. Since a complete report of its use in 300 cases is contemplated in the near future, no further personal mention will be made of it relative to the present series. However, I wish to summarize my thymophysin experience with the statement that no one method of procedure in labor, either from the standpoint of alleviating pain or from the standpoint of actually shortening the time factor, has proved so satisfactory both to the patient and to me as this one development of twentieth century obstetrical treatment.

This preparation comes in 1 cc. ampules and in ½ cc. ampules. There is no contraindication to its use at any time during the first stage of actual labor. In fact, I have used it a number of times as a test of labor, three minims being injected every forty minutes until regular, rhythmical pains were established. If such a result was not attained after three doses, the case was classed as not in labor and the patient dismissed to her home.

In the presence of labor, a maximum of four minims is the rule, not because of any untoward effects from a larger dosage used in the first eight or ten cases, but because excellent results are secured with the smaller amount and four minims can be repeated if dilatation is not completed. Pains begin usually within two or three minutes after injection and are characterized by their frequency, rhythm, intensity, and duration. At no time is there any expulsive action as similar amounts of pituitrin produce. Despite

the existence of several skeptical users who have reported their experiences within the past year and state their opinion that its effect is not different from similar doses of pituitrin, I know of no way in which to better describe its action than to say that it seems to literally "melt the cervix." With each contraction some form of inhalation anesthesia is advisable and when dilatation is complete, or nearly so, the patient is prepared for actual delivery, the anesthesia is deepened as necessary and delivery accomplished following a perineotomy or, at times, episiotomy.

The advantages of this agent are as follow: It can be employed as soon as labor begins or safely as a test of real labor. It is easily administered. It shortens markedly labor in primipara or multipara. In the dosage mentioned above there is no evidence of tetany. It has no expulsive action unless given late in the first stage or in large doses earlier. It does not increase the incidence of hemorrhage. The cervix shows no more damage than is found after deliveries without thymophysin. It has no bad effect on the baby. It does not harm the mother. The placenta is promptly expelled from the uterus.

The use of forceps, except prophylactic forceps, has appreciably diminished with the use of thymophysin which is valuable in hastening dilatation in certain pathological conditions. In small doses, it is not contraindicated in toxemia. Morphia can be used in conjunction with it. Its disadvantages are but few. Doses of not over four minims are safer and as effectual. It will not be effective where an exhausted uterine musculature is encountered. It must be used with the same care and judgment any other ecbolic deserves.

Malposition, marked disproportion, cardiac disease, advanced renal disease, hydramnios, and Bandl's ring are definite, obvious contraindications to its use.

In presenting this subject to you my purpose has been not to favor any particular one of the many methods of analgesia in labor, but rather to bring to your attention those that have been tried and found not wanting by discussing each one as to its make-up, the technique of its administration, its actions, its advantages and disadvantages. From these findings I hope that you will be aided in evaluating the different methods so that out of them all, one, or a combination of the advantageous portions of several methods may be more generally utilized to allay the discomfort and suffering incident to childbirth.

Abstract of Discussion

DR. JAMES R. BLOSS, Huntington: This paper of Dr. Point's has been a very valuable one in that it has taken up and discussed for you some seventeen or eighteen methods of relieving pain during childbirth. Some of them, as he says, are not satisfactory.

In going over Dr. Point's paper, of which he very kindly let me have a copy, I can not help but feel that the old-time methods are not sufficiently stressed. He speaks of ether. Of course, ether will relieve the pain of childbirth, but it has many disadvantages and particularly to the members of the West Virginia State Medical Association who are doing obstetric service in the homes. You can not with open fires safely use ether. There is too much danger of explosion. As the contraction comes on, you can not give ether sufficiently and rapidly enough to get the results before the uterus is relaxed, so you might as well not use it.

Personally, I have always advocated and preferred chloroform in home work. I will be perfectly frank and confess to a preference for its use in hospitals where there is no gas anesthesia available.

Chloroform has a number of dangers, which were mentioned by Dr. Point. The first one is in the great number of men coming out of college who know nothing about the administration of chloroform. Only last week I observed a recent graduate start in to give chloroform the same way he did ether, and, consequently, he had his patient almost dead. The trained man can use chloroform in obstetric service very safely. Chloroform used carefully in tiny drops is, in my opinion, eminently safe, and in home obstetric work perfectly satisfactory as well as safe.

I agree with Dr. Point that nitrous oxide is the most satisfactory of all the inhalation anesthetics where you have the apparatus and have an anesthetist properly trained in the procedure. With one

or two whiffs of nitrous oxide the contraction of the uterus is not interfered with and when the mask is removed your patient is perfectly conscious. I prefer nitrous oxide in the hospital.

I have not used spinal anesthesia. Some of our friends up in New Jersey are enthusiastic about it. One physician had a fatality during its use in Long Island College hospital during a delivery. They have stopped its use. I have not felt it a safe thing to undertake.

In caudal anesthesia, I can not see the very great danger Dr. Point speaks of, except from infection. I can see that in the second stage of labor, or where you have a repair to do, caudal anesthesia would be a very satisfactory thing. So far, it has been my good fortune not to have a patient where it was not safe, or to whom it was not safe, to give either chloroform or ether, and not undertake the caudal anesthesia. Just in passing, I only use chloroform during active labor. As soon as labor is completed, if I have any repair work to do, if it is not possible to use nitrous oxide, I always switch to ether. They do not stand a chloroform anesthetic well for repair work after the baby is delivered.

About morphine, I think that it is unappreciated in many instances by men doing obstetric work. On the other hand, I think that morphine should be used very carefully. I want to differ from Dr. Point. I have seen some babies, where through an error of judgment as to how long before delivery would occur, or through an error of the attendants, a dose of morphine has been given too close to the time of delivery. I would emphasize the thing that he spoke of about morphine in that frequently you do get an almost pituitary action from doses of morphine. Uterine contraction seems to be stimulated. You will think that it will be three or four hours before the delivery will be completed, and give them a dose of morphine. You find the cervix melts away and the baby is very quickly delivered. Then you may have to devote your time to resuscitating the baby. I have not used local anesthetics in the second stage or for repair. It seems to me that the danger of infection is too great. It seems to me that the patient can take some other type of anesthetic just as satisfactorily.

About the morphine-scopolamine combination, I use hyoscine instead of scopolamine. I use small doses of hyoscine combined with small doses of morphine. So far, I have had no reason to be dissatisfied. Scopolamine, hyoscine and hyoscyamine are isomeric and yet have a different action. If you want to get the most satisfactory relaxation of the smooth muscles with these alkaloids, use hyoscyamine. There the relaxation in your smooth muscle fibre, in your renal colics or other smooth muscle spasm, comes much more quickly than with hyoscine or scopolamine.

In my hands, the Gwathmey technique has not been satisfactory. I rather suspect the trouble has been with me and not with the technique. It has not been used as he advised, probably, but I have not had very satisfactory results with it. I question the universal use of quinine. In small doses, as Dr. Point says, it does no good. I have seen one or two cases where I have felt that 10-grain doses of quinine had produced an ablatio placentae. I feel very sure that in many cases, doses of quinine have just torn the placenta loose, and the baby born dead as a result of placental hemorrhage.

I have not used the barb-eth-oil he speaks of.

A combination of the various techniques has given me the most satisfactory results. I do not give sodium amytal in large doses of 9, 12 and 15 grains. I give my first dose of sodium amytal in one capsule of 3 grains, occasionally two capsules, but I use a maximum of 6 grains only. But at the same time I still give them an eighth of a grain of morphine and a two-hundredth of a grain of hyoscine, with occasionally 2 cc.'s of 50% solution of magnesium sulphate intramuscularly. I find that the patients get relaxed and that their amnesia is much greater using this particular combination. If they are still restless and fussy, and complaining, the sodium amytal is repeated, 3 grains in two hours. If the labor is prolonged beyond that, at the end of four hours they are given 3 grains more of sodium amytal, with an eighth of a grain of morphine, and a two-hundredth of a grain of hyoscine.

In my experience, this has been the most satisfactory of the analgesics and anesthetics, and has seemed to shorten labor in many cases.

I think that each one of us has a method of working that is most satisfactory to him, and which he uses better.

I have had no experience with avertin. I can see that there are some dangers attending its use. I can see no advantages, and, as I said, I have stuck to my technique. I am sorry that I am not as enthusiastic about some of the other methods as Dr. Point. I used several of the other methods in experiences similar to his, and got all the samples and literature about the new ones. I used thymo-

physin in a number of cases. I started with 4 minims as a kind of a feeler, to see what that would do. If that didn't do anything special, I gave the balance of 10 minims. I can not see that in my experience it had any advantages or that it did any more good than the careful use of pituitary extract.

One of the commercial houses had sent me quite a supply of one of their products, pitocin and pitocin with thymus extract. I used that in quite a large number of cases and made my reports to them. I can not see that either of these preparations had any particular advantage over ordinary pituitary extract. The use of pituitrin is not a bugaboo to me; I am not afraid of it. But if there is any one drug used by obstetricians that has to be used mixed with gray matter, it is pituitrin. The method of injecting 7.5 to 15 minims of pituitary extract into a woman in labor is a dangerous procedure. The first dose I ever gave about thirteen or fourteen years ago was a full cc. to a woman who had eleven children, and she had been in labor twenty-four hours then. I had merely time to lay my syringe down and catch the baby. I thought that was good at the time. The next dose I gave to a primigravida, and the only thing about that perineum which was not torn was her rectum. That taught me a great deal. The use of pituitrin, though, is peculiar. You will find that about one blonde out of five will not be affected by it, that is about 20% of the blondes; in that case you might as well pour water in the ear, for it will do about as much good. In one brunette out of ten, 10%, it has no effect. I am sorry to say my experience has not been so satisfactory as has Dr. Point's. I think it would be a wonderful thing if we all could get those results, but I do not think you can markedly hasten delivery safely with the use of sodium amytal, morphine and hyoscine and pituitary; but you can do much to alleviate the suffering.

DR. B. O. ROBINSON, Parkersburg: I have always contended that obstetrics is the most important branch of our profession. I have been doing obstetrics and general surgery for about twenty years, and I think that good deliveries require much more skill than surgery, such as gall bladder cases, or most any abdominal surgery.

As for the anesthetics, the first thing I want to do is to congratulate Dr. Point on his paper.

And Dr. Bloss for his excellent discussion.

Women today are demanding relief from labor. And the doctor who does not give it is a back number, as you all know. I am in the habit of giving morphine and scopolamin, ¼ grain of morphine and about 1 150 grain of scopolamin in the early stages of labor. I don't think narcotics should be given in the late stages. I have been using chloroform for twenty years, without any bad results either to the mother or the child. I think the younger men are condemning it just because they have not had much experience with it. Five years ago, I started employing the Gwathmey technique of 2 cc.'s of epsom salts with ¼ grain of morphine, given deeply and intramuscularly. In twenty minutes the patient has usually obtained relief; but if she has not, then give 2 cc.'s more of epsom salts. Then wait twenty minutes, and if she is not relieved, give your instillation of quinine, ether and alcohol. You must be careful in giving this instillation. If you use a rectal tube or a large catheter, you have to be careful in passing around the baby's head that it does not curl on you. The tubes should be filled with warm olive oil. After the other preparations have been given, follow up with more olive oil. Your patient will have some pain, but seems very comfortable during labor from that time on. Of course, ether, I think, is the safest of all anesthetics. I have used, I think, more of ether than any other. After you give your narcotic and have three or four finger breadths' dilitation, and the pains are four or five minutes apart, then you should start your anesthetic, whichever one you might decide on.

As for the repair work, I don't object to giving a few whiffs of chloroform. I have never gotten bad results, either with the baby or the mother. It is almost impossible to use the Gwathmey technique in homes, unless you have the proper assistance. As for the barbituric acid preparation, I have not had much experience with it, but it is becoming more popular every day, and I think we will all use them more after we have learned more about them.

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THE TREATMENT OF THYROID INTOXICATION *

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THE HONOR which you have conferred upon me by asking me to appear before this Society is deeply appreciated. The subject that I have chosen to discuss is one of the most controversial in medicine, as is evidenced by the great number of papers that appear upon the problem of thyroid intoxication and its treatment, and the variety of opinions and ideas that are set forth in them.

It would seem that the amount of study which has been devoted to this subject in the past fifty years would have resulted in a greater uniformity of ideas than now exists. On second thought, however, the mere fact that the etiology of thyroid disturbances is as yet unknown makes it almost certain that this problem will remain a very much discussed one until the cause is more definitely determined. Not only is the cause of thyroid disturbances not known but the whole problem is certainly linked up with a great many other physiological and pathological conditions about which we know even less than we know concerning the thyroid. Very little is known concerning the relation that is admitted to exist between the thyroid and the other endocrine glands. In addition, there is definite evidence that the sympathetic nervous system stands as either a cause or effect in relation to hyperthyroidism. This is evidenced by increased perspiration, flushing of the skin, intolerance to heat, tachycardia, and many of the other symptoms that we all definitely recognize as being due to the action of the sympathetic nervous system. Then, too, the parasympathetic system is frequently involved, as is shown by the occurrence of vomiting and diarrhea. The somatic nerves are also disturbed as shown by the muscle tremors. Thus, in a broad sense, thyroid intoxication is intimately related to the function of all the endocrine glands, the sympathetic, the parasympathetic and the somatic nervous mechanisms. In many instances it is extremely difficult to place values on the links of this complex chain of disturbances and to determine where one's efforts should be made to break it.

* Read before the West Virginia State Medical Association at Parkersburg, on June 21, 1932.

It is realized, of course, that the classification of thyroid affections is about as varied as the authorities who write upon the subject. This variation alone tends to produce confusion, but it seems unavoidable until we have more definite information concerning their etiology. Nevertheless, it is necessary, in order to discuss the problem of thyroid intoxication, to have some kind of a working classification. In our clinic the following plan has been adopted:

(A) *Diffuse Changes.*
  (a) 1. With hyperthyroidism (example, exophthalmic goitre).
  2. With physiological hyperthyroidism (examples, puberty hyperthrophy and adolescent goitre).
  (b) Without hyperthyroidism.
  (c) With hypothyroidism.

(B) *Nodular.*
  (a) With hyperthyroidism.
  (b) Without hyperthyroidism.
  (c) With hypothyroidism.

(C) *Diffuse and Nodular.*
  (a) With hyperthyroidism.
  (b) Without hyperthyroidism.

(D) *Inflammatory.*
  (a) Acute Suppurative and Acute Non-Suppurative.
  (b) Chronic.

(E) *Malignant.*
  (a) Carcinoma.
  (b) Sarcoma.

In order to avoid a fruitless and confusing argument we are not using the term adenoma. Whether we regard a nodule in the thyroid gland as an adenoma or a localized hyperplasia seems to me, after all, a matter of very little pathological significance. In fact, I do not believe that any pathologist would become greatly excited if the statement that all benign growths are localized hyperplasias should be made. It would, however, cause an argument if one maintained that an adenoma of the breast is a localized area of a lactating mammary gland, or, that a myoma of the uterus is a localized area of a pregnant uterine wall, and so forth. It seems to me that those who have gone to the great trouble of proving that adenomas of the thyroid gland are not adenomas but are localized hyperplasias of thyroid tissue have added to the confusion of our problem by consciously or unconsciously giving the impression that there is no essential difference in the pathological physiology of exophthalmic goitre and an adenoma of the thyroid gland.

There is certainly no doubt that there are two distinct clinical pictures associated with hyperthyroidism. In the group of diffuse hyperplasias stands the classical picture of Grave's disease associated usually with rapid onset, tachycardia, exophthalmos, tremor, great loss of weight, heat intolerance, excessive perspiration and a greatly increased metabolic rate. On the other hand is that group of nodular goitres with insidious onset, nervous tension and cardiac damage which not infrequently is associated with a normal or subnormal basal metabolic rate. To admit no essential difference in these two groups is, I think, combatting clinical pictures that are well recognized and definite. It also tends to throw confusion into a situation which has been for many years developing definitely and sanely toward the recognition and treatment of these two large groups of thyroid disturbances. The clear recognition of these distinct groups helps, I believe, in the interpretation of the symptoms and the surgical treatment when, as not infrequently happens, we encounter the symptom complex presented by a combination of diffuse and nodular changes.

Concerning the factors that may be responsible for initiating the clinical picture of thyroid intoxication very little has been added since the clinical pictures became definitely recognized. The mere fact that such a wide variety of inciting causes is always listed is further evidence that we know very little about the etiology. Among these various factors are intoxication, pregnancy, menstruation, fatigue, emotional strain and other conditions. In most cases the factors that have been enumerated presuppose an effect upon

the sympathetic nervous system which, in turn, precipitates the picture of hyperthyroidism.

Since the isolation of thyroxin by Kendal it has been generally admitted that this substance is a very important factor in the toxic

FIG. 1.—The line of incision marked so that the scar will be in one of the normal wrinkles of the neck. Note that it is placed well above the ends of the clavicle.

disturbances of hyperthyroidism. Whether it is the cause or the effect of the hyperthyroidism remains undetermined, but that it is toxic to the body and is important in the causation of nervous and metabolic disturbances is well established. In recent years there has been accumulating evidence that thyroxin is not the sole disturbing factor and

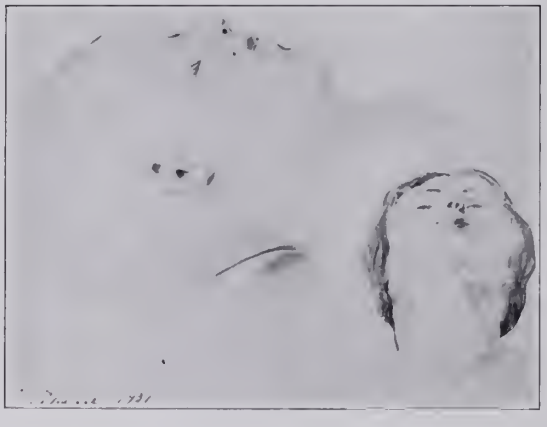

FIG. 2.—The position of the head, as compared to the position of extreme extension often employed as illustrated in the insert.

that other substances may play a definite rôle in hyperthyroidism. In fact, recently some of these substances which are thought to play a definite rôle have been isolated by Kendal.

One of the main difficulties in treating thyroid intoxication is the lack of a uniform conception of what constitutes thyrotoxicosis. Many physicians and surgeons measure thyroid intoxication largely, if not entirely, by the basal metabolic rate. A small but increasing number maintain that thyrotoxicosis may exist in the presence of a normal or subnormal rate. It is our belief that an increased basal metabolic rate is of definite positive value. In other words, in the presence of unmistakable hyperthyroidism an increased rate may be a fair index of the intensity of the disease, while in the presence of unmistakable hyperthyroidism a normal or sub-

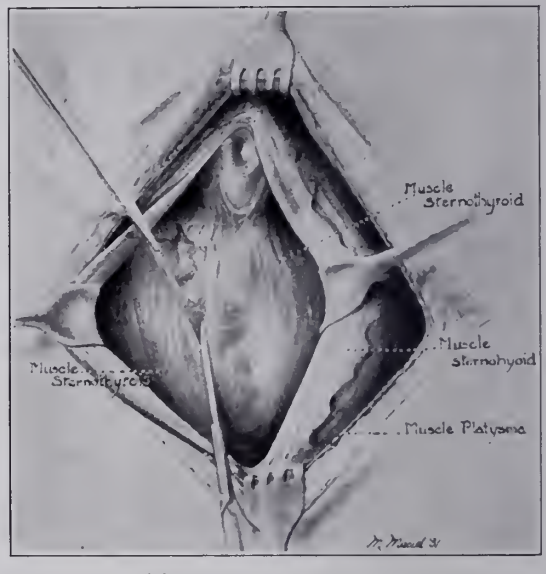

FIG. 3.—Incision along the anterior border of the sternothyroid muscle. The sternohyoid is retracted. The upper pole has previously been freed posteriorly.

normal rate should not be regarded as an index of the amount of damage being done. In a recent article Roger Morris makes a statement which expresses our ideas of the value of this laboratory study. He says: "*The basal metabolic rate*, while very helpful when it is elevated, *is a sign which should be ignored, when normal or subnormal, in the presence of unmistakable evidence of thyrotoxic symptoms and signs.*" We have been especially impressed by the circulatory disturbances that may be caused by nodular goitres, associated with a normal or subnormal rate. To a lesser extent the same has been true of the cases of "burned out" exophthalmic goitre. In these two groups of cases it is very likely that at previous times

the metabolic rate was definitely elevated. In some of our cases of "burned out" exophthalmic goitre we have definite records of preexisting high metabolic rates. This observation is particularly true in those cases which have been treated with radiation therapy. In the case of nodular goitres it is not an uncommon observation to note wide fluctuations in the basal rate. In the course of a year we have repeatedly seen it vary from subnormal to +50 per cent. In many cases the results following operation have been so striking that we have been forced to adopt the policy of ignoring a normal or subnormal rate when there exist unmistakable signs of thyrotoxicosis associated with nodular or "burned out" diffuse changes of the thyroid gland. As an example of the effects of an old apparently non-toxic exophthalmic goitre I cite the following case:

Case 1. W. S. Female. Housewife. Aged 32 years. Admitted to the hospital April 11, 1930. Her story was that some eight years ago she had a typical attack of exophthalmic goitre associated with an enlarged gland, a marked exophthalmic tachycardia, and a basal metabolic rate of about +50. At that time she was given eight treatments with x-ray therapy, and at intervals of five or six months these treatments were repeated for about two years. The size of the gland decreased and her basal rate dropped to about normal. She, however, continued to be nervous, to tire easily, to perspire profusely and to have a marked tachycardia under the slighest stress or strain. At this admission her basal rates were minus 17 and minus 21.7. There was no enlargement of the thyroid gland although what could be felt appeared to be firm. Her eyes were prominent and the typical signs of exophthalmic goitre were present. Her hands and feet were moist, the pulse rate in bed ranged from 80 to 90, and during examination on getting up, promptly increased to 120 or more.

On April 21, 1930, a very radical resection of both lobes of the thyroid and the isthmus were done.

The response to this operation has been most satisfactory; nervousness and tachycardia have disappeared; she has gained weight, and is able to carry on her household work. Her basal metabolic rate some six months ago was minus 30 but, in spite of this, she did not show the skin changes of myxedema. The use of a little thyroid extract makes her feel better but does not cause the symptoms of hyperthyroidism to return.

Microscopical sections of the gland showed an extreme fibrosis and lymphoid infiltration about many areas that looked like typical hyperplasia of Grave's disease. In some places the fibrosis was so marked that the glandular elements resembled carcinoma.

As an example of the larger group—now about 24 cases — of nodular goitre with symptoms of thyrotoxicosis, chiefly vascular disturbances, and associated with a low basal metabolic rate, which have been operated upon, I cite the following case:

Case 2. R. E. M., male, aged 34 years, was admitted to the hospital November 17, 1930, for the treatment of a duodenal ulcer which had caused a rather severe hematemesis. He was placed on the Sippy treatment and improved satisfactorily, but complained of a nervous tension and of palpitation. It was noted that there was a slight stare and lid-lag but no exophthalmos. There was no visible goitre, but palpation revealed a moderately enlarged adenomatous gland, over which a faint continuous murmur was audible. There was an instability of the pulse, the rate being between 90 and 100. There was a strong pulsation in the abdominal aorta. The blood pressure was increased, averaging between 160/80 and 170/90 mm. The heart action was forceful. Relative dullness measured 2x9 cm. The sounds were loud and clear, and the rhythm regular. There was a weak systolic shock at the apex. There was slight fine tremor in the fingers. The skin was of normal texture and moist. The remainder of the physical examination was negative. On November 17, the basal metabolic rate was —17 per cent; on November

24 the rate was —32 per cent; on November 29 a third determination also gave a rate of —32 per cent. Differential count showed 27 per cent lymphocytes. Subtotal thyroidectomy was performed December 3, 1930. A fairly

FIG. 4.—The upper pole vessels divided between clamps, and the fascia between the anterior aspect of the upper pole and the trachea divided.

large adenomatous gland was found. For two days after operation thyrotoxic symptoms increased but were controlled by luminal and by increasing the dose of Lugol's solution, which had been started prior to operation. Thereafter the patient made an uneventful recovery. Nine days after operation the basal metabolic rate was —12 per cent. A month after operation the metabolic rate—10 per cent, the pulse rate was normal and the blood pressure 120/80 mm. The nervousness and palpitation disappeared and the patient was feeling perfectly well. On February 1, 1932, this patient had a metabolic rate of +11, blood pressure of 164/90, gradually decreasing, after repeated determinations, to 126/80, and some symptoms of nervousness. A recurrence of the goitre could not be detected.

While we do not accept a normal or subnormal basal rate as indicative of the nonexistence of thyrotoxicosis, I need scarcely remind this audience that the indiscriminate acceptance of an increased rate as indicative of thyrotoxicosis is fraught with many pitfalls. Graham has made this statement: "If one is eager to operate upon a large number of goitres, I know of no way in which one's conscience could be soothed more easily than to always accept a reported increase of the basal metabolic rate as evidence of hyperthyroidism." Every year we see several cases of tuberculosis which have been treated by radiation of the thyroid gland and the administration of Lugol's solution based on the mistaken diagnosis that the increased basal rate meant hyperthyroidism. Fever from any

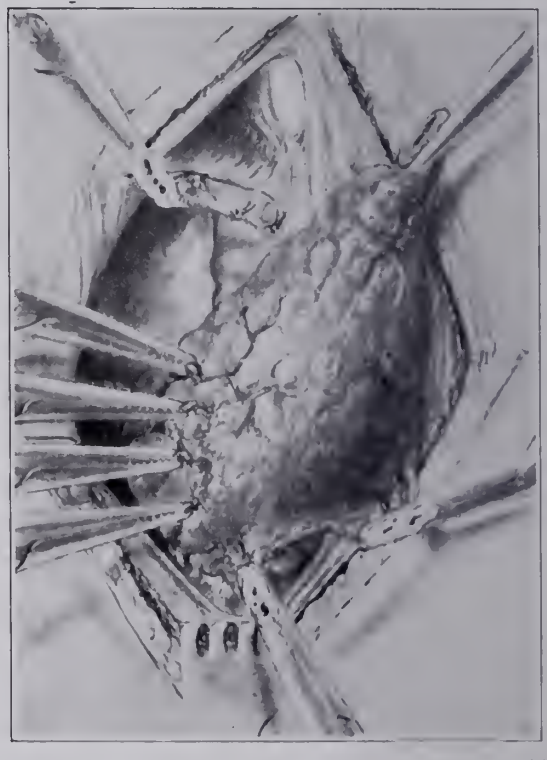

FIG. 5.—The lobe retracted strongly across the midline —clamps applied to the vessels of the capsule along the anterior margin of the portion to be left behind.

cause is known to increase the metabolic rate. It is elevated during pregnancy and in the eighth month may be up as much as 25 to 30 per cent. A rate of +80 has been reported in a case of lymphatic leukemia, and there are other causes which may elevate the rate. I am

convinced that basal metabolic rates of +17 to +20 are of practically no value in making a diagnosis of hyperthyroidism when the diagnosis can not be supported by the clinical findings. This is particularly true when there are no nodules in the thyroid gland. In the acute fulminating type of exophthalmic goitre the diagnosis from the clinical picture is easy and the metabolic determination becomes only an index of the degree of toxicity. In the cases associated with an apparently normal gland, or only slight diffuse changes, one should be extremely cautious about placing much significance to rates ranging from +17 to +25. However, as stated above, the presence of nodules in the thyroid gland, or a "burned out" exophthalmic gland, make

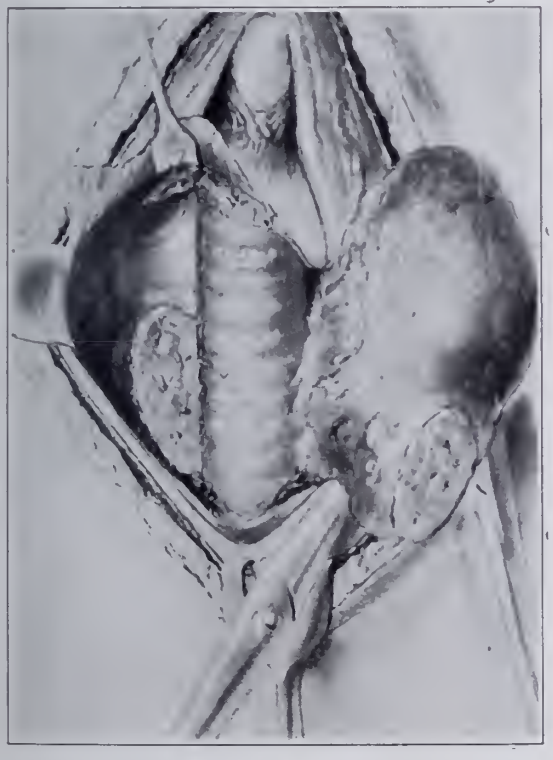

FIG. 6.—The right left lobe removed, the vessels ligated and the left lobe freed from the anterolateral aspect of the trachea. The resection of the left lobe is then done in the same manner.

us put an entirely different valuation upon the basal metabolic rate. In such cases a normal or subnormal rate can not be used as a criterion of an absence of thyroid intoxication.

If the basal metabolic determination is to be demoted from its pinnacle of infallibility and become only a useful laboratory adjunct when properly evaluated, what then should be our criteria for arriving at a diagnosis? It seems to me that we must fall back upon judgment based upon experience, a careful history and physical examination. When

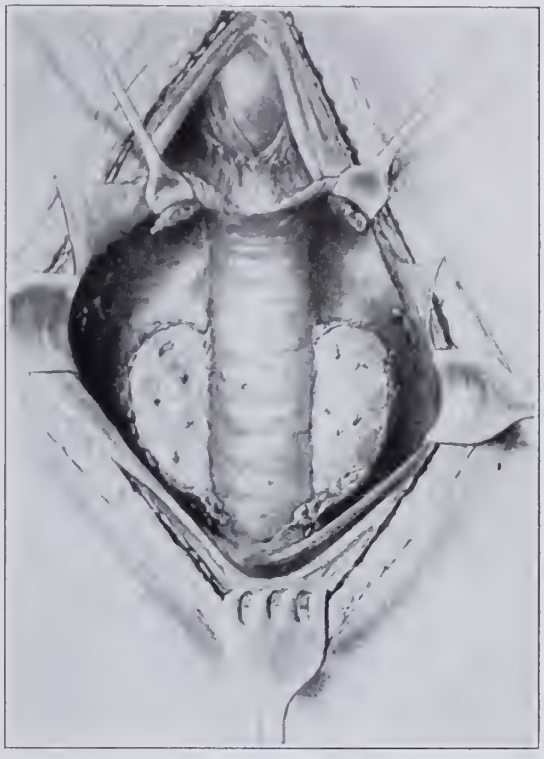

FIG. 7.—The excision completed—all vessels ligated—showing the position and approximate size of the portions left behind.

properly evaluated studies in metabolism, blood, urine and blood pressure and x-ray examinations may become very helpful; if erroneously evaluated, they become distinctly harmful. As yet, there is certainly no infallible laboratory test for hyperthyroidism. The significance generally attached to the basal metabolic determination is, we feel, productive of more harm than good. We believe that there may be definite thyroid intoxication in cases of nodular goitre and in some cases of diffuse goitre where the basal metabolic rate has never been known to be elevated and has, in many instances, been uniformly subnormal. This is all confirmatory of our belief and of others, that thyroxin, which is known definitely to increase

the basal metabolic rate, is not the sole toxic agent and that there are other substances elaborated in the thyroid gland which can produce definite disturbances to the circulatory and nervous systems without causing any increase in the basal metabolic rate.

It is very difficult to appraise the value to the country at large resulting from the reintroduction of the use of iodine in the treatment of hyperthyroidism. That it has to a large extent revolutionized the surgical treatment of toxic goitres can not be denied. On the other hand, the indiscriminate use of it in the treatment of goitre both by physicians

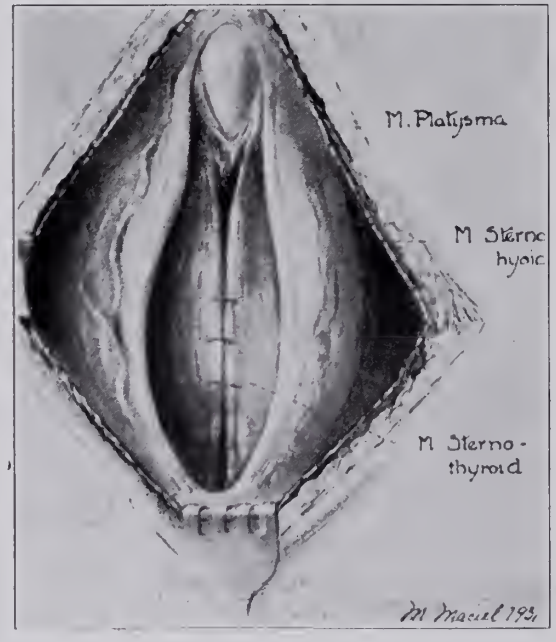

FIG. 8.—The closure begun. The sternothyroid muscles loosely approximated in the midline with interrupted sutures. The sternohyoid is next similarly sutured.

and by people who buy it on their own responsibility from drug stores or from grocers as iodized salt, has undoubtedly resulted in much harm. "The mass of evidence that iodine hyperthyroidism is real and of no mean proportion is incontrovertible."—Graham. The long administration of iodine before operation often creates a most difficult clinical and technical problem and greatly increases the risk of operation. In many such cases we find it necessary to withhold all iodine for a considerable period before operation and to abstain from its use even as a preoperative measure. Today it is the experience of most people doing thyroid surgery that the mortality rate is especially high in the cases which have had a prolonged use of iodine before coming to the surgeon. In the case of nodular goitres with hyperthyroidism

FIG. 9.—The suture of the platysma, the knots thrown inside of the muscle.

and in all cases of diffuse goitres with definite hyperthyroidism that will eventually require operative treatment we feel that its use is definitely harmful except as a preoperative preparation. Generally speaking, the response is most satisfactory in the outspoken cases of exophthalmic goitre. It is usually satisfactory in the nodular goitres with definite hyperthyroidism and an increased basal metabolic rate. As you all recall there was, in the beginning of the recent widespread use of

FIG. 10.—The skin sutures being placed.

Lugol's solution, a feeling that it was perhaps not wise to use it in the case of adenomatous or nodular goitres. However, the response was so satisfactory in such a large percentage of these cases that soon it was adopted as a routine measure. It is still generally used as

such, but it is well to remember that in a certain percentage of cases the response instead of being beneficial will be harmful. It is not so very unusual to see the pulse become more rapid, more fluctuating, more unstable, and in such cases it is well to withdraw its use and to wait some time before operating. It is just another demonstration of the fact that it is impossible to find any procedure that is applicable to all cases and that one can not proceed without being definitely influenced by the patient's clinical picture and response to any given drug.

Following this general discussion it may now be helpful to discuss certain groups of patients.

Diffuse Changes with Hyperthyroidism of the Definite Exophthalmic Type.—The typical case of Grave's disease is rarely mistaken by any physician. This is especially true in the thin, emaciated people with long necks in whom the enlarged gland is easily seen and felt. In our experience the greatest difficulty of diagnosis occurs in the relatively old fat persons with short necks and a very narrow space between the thyroid cartilage and suprasternal notch. In such cases the eye signs are frequently insignificant except for puffiness and increased pigmentation of the eyelids; it may be difficult or impossible to feel the enlarged gland because of its low position behind the clavicles. In any case of suspected Grave's disease it is well always to be sure of the situation and size of the gland. In the long-necked thin people it is usually high and there is no difficulty; in the deep-chested, short-necked fat people a very large gland may be definitely demonstrable only by the aid of x-ray studies. As a matter of routine every goitre case should have taken a stereoscopic x-ray of the chest including the neck. The information is often surprisingly helpful, especially that derived from the position of the trachea. As an instance of the value of x-ray the following case may be cited:

CASE 3. Mrs. E. H., age 67 years, was admitted to the hospital September 10, 1930. She was five feet, eight inches in height, and although she weighed only 109 pounds, was rather fat about the face, neck and shoulders. She was extremely ill, showing evidences of advanced cerebral vascular disease—mental confusion, poor vision, partial aphasia, a mild spastic hemiplegia on the right side with exaggerated reflexes, weakness of the external rectus muscle in both eyes and bilateral positive Oppenheim and Gordon reflexes; heart, enlarged, fibrillating and showing a left axis deviation in the electrocardiogram. Pulse rate, 100 to 120. Blood pressure 180/100. Because of the presence of sugar in the urine this patient had been treated for over a year for diabetes, heart trouble and nervousness. She had lost 70 pounds in weight. The blood sugar was normal. The basal rate +50 to +55. No exophthalmos. Definite pigmentation of the skin, especially of the eyelids, which seemed to be edematous. The patient was obviously nervous but this was difficult of interpretation because of her mental state and the coarse ataxic movements of the extremities. She was stooped and the space between the thyroid cartilage and sternum was extremely narrow, barely admitting two fingers. The thyroid gland could not be felt. The x-ray examination of the chest revealed an increase in the retro-sternal density, suggesting an enlargement of the thyroid gland. The shadow was continuous with the mediastinal shadow. Our roentgenologist was not sure whether the shadow was due to the thyroid or to a mediastinitis. There was much difference of opinion by the many clinicians who saw the films.

Now, was this a case of extensive vascular sclerosis with cerebral damage or was hyperthyroidism playing a very material part in the picture? Some counseled for, some against operation. The response to the administration of Lugol's solution was very encouraging. At operation a very large exophthalmic gland was found situated entirely below the level of the clavicles. Its removal resulted in a complete symptomatic cure. She regained her normal weight; the

fibrillation, nervousness and cerebral symptoms disappeared.

There is so much difference of opinion concerning the treatment of exophthalmic goitre that it is useless to say more than to state one's own position in the matter. After a period in which we gave a long and serious study to the effect of rest and radiation therapy, we have come to regard every frank case of exophthalmic goitre as a candidate for surgical treatment. This is our position for even very young people, in which cases, however, one must be very sure to distinguish between this condition and the common conditions of puberty and adolescent hypertrophies.

In the case of the "burned out" exophthalmic goitre with a low basal metabolic rate and the clinical picture of hyperthyroidism it is of the utmost importance to exclude the presence of myxedema. This can usually be done by paying especial attention to the skin, the pulse rate and the patient's tolerance of heat. Most of our cases in this group have been persons who have had extensive treatment with x-ray therapy. The gland itself is usually very hard and small.

The Diffuse Changes Associated with a Physiological Hyperthyroidism as seen in Puberty and Adolescence.—In such cases it is our belief that the value of thyroidectomy would be greatly enhanced if operations were never performed. The results of operations are very largely unsatisfactory. The termination of such cases under medical care can not be predicted; most of them return to a fairly normal state of balance, some of them develop hypothyroidism and a few proceed to a state of unquestioned exophthalmic goitre. We maintain that in the latter instance only is there an indication for operation. Generally speaking, we are extremely wary of all diffuse thyroid changes unassociated with clear-cut clinical and laboratory evidence of Grave's disease. In the cases of puberty and adolescent goitres with mild overactivity, a soft slightly enlarged gland and a basal rate of +17 to +25 a carefully regulated life plus the judicious administration of iodine and occasionally x-ray therapy will often hasten the return to a normal balance. When there is no evidence of toxicity it seems to me that the best results are obtained by allowing nature to take its course undisturbed by medical or surgical procedures. When, as sometimes happens, a state of hypothyroidism develops the administration of thyroid extract is indicated.

The large diffuse change unassociated with evidences of hyperthyroidism and known as a colloid or windy goitre is uncommon in this country. In such cases the response to Lugol's iodine and small doses of thyroid extract is frequently most satisfactory. In the absence of a good response to medication a careful resection for purely cosmetic reasons seems to do no harm.

Although not apparently associated with a dysfunction of the thyroid gland it may be appropriate here to sound a note of warning in connection with that rather large group of cases of so-called neuro-circulatory asthenia and the cardiac condition that came to be recognized in the war as effort syndrome. Surgical operations upon the thyroid gland in these two groups of cases have undoubtedly brought the greatest discredit and doubt as to the value of thyroid surgery. The results are nearly always most disappointing. The differential diagnosis is, of course, sometimes very difficult. The following points should help to put one on his guard:—underweight; the long duration of the disease; absence of evidence of serious organic disease; nervousness out of proportion to the physical findings; cold, clammy and cyanotic extremities; inability to work; low blood pressure; a very volatile pulse rate; extreme vasomotor instability, with marked demographia and a quick blushing usually spotted in character; a normal or slightly increased basal metabolic rate; a response of "yes" to questions concerning almost any physical complaint; and an apparently normal thyroid gland. These patients are undoubtedly sick and miserable but surgery thus far, unless Crile's adrenal

decortication is the solution, has been almost uniformly attended by an accentuation of the symptoms. When, as occasionally happens, a true thyroid intoxication is engrafted on such "neurasthenic" patients, a guarded prognosis of the results of thyroidectomy should always be made. The hyperthyroidism may be cured; the neuro-circulatory asthenia usually persists.

The development of serious hyperthyroidism during pregnancy has always presented a difficult problem. In such cases it has been our policy to treat the condition surgically regardless of the pregnancy. The results seem to be better than to take the chances of the serious consequences that may develop. Graham reports a series of twenty-five cases without the loss of a mother or a miscarriage. Due to the increased metabolism incident to the pregnancy the post-operative reaction is liable to be more violent. The pre-operative preparation should be slow and attended by a long period of bed rest. The operation should be done with a local anesthesia.

The Nodular Changes in the Thyroid Gland.—The difficulty of discussing nodular goitres is, as I have stated, the lack of uniform ideas concerning what may be considered to constitute evidences of toxicity. If the basal metabolic rate is only of positive or relative value, if nervousness need not be discernible and if it is difficult to assign etiologic factors to cardiovascular damages, what attitude then should one adopt? By some standards, I do not know just what they are, life insurance companies count on twenty per cent of them becoming definiely toxic. Of the hitherto admittedly toxic cases the course of the disease has been so insidious that cardiac damage has been done in well over fifty per cent before the diagnosis has been made and the nodule removed. Some of us maintain that all nodules are toxic at some time or other, that their toxicity varies tremendously over a period of years and that they may frequently be toxic when unrecognized as such by the commonly accepted standards of measuring their activity. Due to the insidiousness of the effects of toxic nodular goitre and the lack of conviction both on the part of the profession and the patients that serious cardiovascular disturbances may be due almost entirely to the goitre, the morbidity, at the present time, of patients operated upon for nodular toxic goitre is greater than the similar morbidity of patients operated upon for diffuse toxic goitre. The slow, steady strain of these goitres often kills without the cause of death being suspected and all too frequently it results in such extensive cardiovascular damage that much of the damage will persist after the cause is removed. From one to four per cent of nodular goitres develop carcinoma. The incidence of trouble due to apparently symptomless nodular goitres during pregnancy and the menopause is well recognized. We feel that the above facts should honestly be placed before every patient who has a nodular goitre and add that the operative risk in trained hands is negligible. Our policy is to advise the resection of all nodular goitres in patients who are twenty-five years or older.

There has been a great deal of discussion recently concerning unrecognized hyperthyroidism masked as heart disease. It is pointed out that transitory auricular fibrillation should especially make one suspect hyperthyroidism. The studies of Lahey, Levine, Hamburger, and many others, make it almost mandatory to remove any "toxic" goitre whenever there is cardiovascular damage. The results, when there is cardiac decompensation and the operation has to be performed with the patient sitting up, are often miraculous. Burton Hamilton and Lahey conclude that the damage done to the cardiovascular system from thyroid intoxication is due solely to mechanical overstrain and that in such pure or uncomplicated cases the results of operating will be most gratifying. With the relief of the overstrain the comeback of such hearts will often be unbelievable. In many of the cases there is very little definite degenerative change in the heart muscle. Even when there is coexisting organic heart disease, such as

angina pectoris, hypertension, rheumatic or arteriosclerotic heart disease or mitral stenosis, the relief of symptoms following the removal of the toxic goitre may be complete and there may occur a marked improvement of the cardiac function.

In writing about hyperthyroidism masked as heart disease, Levine makes this statement: "After a suspicion has been aroused concerning the possibility of an unrecognized hyperthyroidism, a careful basal metabolism must be made. If this is within normal limits, the diagnosis can be dismissed." With this latter statement regarding the value of the basal metabolic rate Graham and Morris have taken a decided exception and with them we are entirely in accord. For many years it has been our policy to remove all toxic goitres and all nodular goitres with normal or even subnormal basal metabolic rates in all cases of cardiovascular disability. Our results have been similar to those reported by Morris and have certainly justified the policy we have pursued. When there is an associated endocarditis it is explained to the patient and family that the result may be only an improvement. The pressure of a large nodule interfering with the surrounding thyroid tissue may be an explanation of the low rates encountered while, at the same time, the nodule is elaborating a substance which is damaging to the cardiovascular system. Following their removal with a complete relief of the patient's symptoms we have repeatedly seen the basal rates return to normal.

Operations on the Thyroid Gland.—HISTORY: There is perhaps no more thrilling story in the history of surgery than man's effort to relieve sufferers from thyroid affections. For thousands of years goitres were a perpetual challenge to the skill and ingenuity of physicians. They sought relief from the distressing disfigurement, suffocation, difficulty in swallowing, and heart disease. The distress of some of these poor sufferers caused a few surgeons, hundreds of years ago, to discard discretion and to attempt operative removal of their goitres when a lack of knowledge of fundamental surgical procedures doomed them to failure in most instances. In the literature there are records of some of these early attempts. It is extremely interesting to read these old records not only because they recount thrilling and almost blood curdling stories but because they bring forcibly to us the advantages that we of today possess and the great advances that have been made since that time. They make us realize that we have a duty to posterity, to try to continue the great progress that has thus far been made. Let us not be deceived, for almost certainly a hundred years hence will find surgeons viewing our work very much in the same light as we view the work of the surgeons a hundred years ago.

The fundamental principles of the technique of operating upon the thyroid gland have been fairly well standardized for nearly a quarter of a century. With the use of anesthetics, with the introduction of artery forceps and other aids to the control of hemorrhage, and with the development of aseptic surgery, the efforts of centuries to relieve disfiguring and strangulating goitres began to yield encouraging results. The beginning of this rapid development was about the year 1883. Prior to this time the textbooks of surgery are uniformly emphatic in their counsel against the foolhardiness of attempting to operate on the thyroid gland. Records show that several hundred attempts had been made before this time and that the mortality, (especially due to hemorrhage,) was frightfully high. To these intrepid pioneers we now point with pride, not because of their results, but because of their failure to yield to a well-nigh universal opinion. They stimulated an age-old interest that began to bear good fruit as soon as the time was ripe. Between 1883 and the early part of the twentieth century the fundamentals of the technique of operating on the thyroid gland became established and were employed by the leading surgeons of the world. Since then, there have come many refinements of technique, which have simplified the opera-

tion and have reduced the mortality rate to a very low figure.

There are records, more or less fragmentary, which show that operative attempts to remove goitres were made as early at the year 330. "In the year 1596 Empiric attempted to remove a goitre in a case of a ten-year-old girl. She died under the operation and the surgeon was imprisoned." (Fabric. Hildamus.)

The reports of some of these operative procedures appear now to be some of the most brutal procedures that one could imagine. Klein's description of his attempt to remove a goitre from a deaf and dumb boy, aged 11 years, is a typical example of the horrors of the procedure in 1815. With the child held down by manual force the goitre was removed within about a minute and a half with, of course, almost immeidate death. Other attempts during these very early periods, while not as revolting as that of Klein's, were attended by an enormous mortality from hemorrhage. The operative mortality up to 1850 was 41 per cent; from 1850 to 1877, 21.2 per cent; from 1877 to 1883, 11.6 per cent. One of the pioneers in this field, Kocher, lived to 1917 and performed nearly five thousand thyroid operations. He lived to reduce his own high mortality prior to 1883 to a little over one per cent at the time of his death. The fundamental contributions coming from the period prior to 1883 were, in France, the demonstration of the fact that the first ligature, when two are to be placed on a vessel, should be placed on the cerebral side so that the application of the second ligature will not be painful. This is a procedure which should be remembered when doing operations under local anesthesia. From Italy came the contribution of ligating the thyroid vessels—a procedure which was widely used until the recent introduction of the use of Lugol's solution. This contribution was from Luiga Porta. From Germany came great contributions to technic, beginning with Listerism and developing rapidly into aseptic surgery; also, contributions to control of hemorrhage by the use of clamps. Kocher, particularly, contributed to the knowledge that total extirpation of the thyroid gland produced tetany and gave the name cachexia strumipriva. He also stressed the danger of indiscriminate administration of iodine to patients with goitre. Kocher's warning in this respect is very apropos to the present-day use of iodine. From America came the great contribution of anesthesia, and also contributions to technic. From Gley, 1891, and Bassale and Generali, 1896, came the discovery of the parathyroid bodies. For many years they were totally disregarded and it is surprising that their function was so infrequently disturbed. The contributions of recent years from Halsted, Horsley, Crile, Mayo Clinic, and many others have been great factors in reducing motality, and in perfecting the operation. For over a hundred years the control of hemorrhage was the surgeon's greatest difficulty when operating on the thyroid gland. It today probably remains the biggest factor in the immediate success of the operation. Infection and secondary hemorrhage have largely been eliminated, improved instruments have enormously simplified the control of hemorrhage, and anesthetics have allowed the development of a deliberate procedure.

In this connection it may be interesting to quote from Halsted's memorable monograph on "The Operative Story of Goitre":

"In the story of the development of the operation for goitre the essential history of surgery is comprised. The problem has been a pressing one for hundreds of years, and not only in countries where the majority of the population was affected with the disease. It would not be solved until surgeons had become proficient in the art of dealing with blood vessels. This art could not be acquired except by experience in operating. The experience could not be gained until anesthesia was discovered. With the introduction of anesthesia the number and magnitude of operations promptly increased. The knowledge acquired from the new opportunities soon manifested the need of better methods for controlling hemorrhage, and primitive forms of artery forceps were devised. From these, after a time,

the artery clamp was evolved. With the rapidly increasing number of patients and the crowding of hospitals sepsis reared its head in form so dreadful that hospitals had to be destroyed and operating had to be discontinued, only desperate cases being brought under the knife, for a simple incision was quite surely to be followed by pyemia, septicemia, or hospital gangerene. With the introduction of Listerism came the daybreak of modern surgery which had dawned with the advent of anesthesia. And now in the few years since the discovery of anesthetics, in the brief span of one life, surgery, so it seems, has marched from the beginning to near the end of its great era—the great era of operative development. Fortunate, indeed, are those who have labored throughout this stage of its long journey. More privileged still, we trust, may be the progressive surgeons to come who soon must seek fresh pastures and new friends."

I have cited these salient factors in the development of the operative technic mainly to draw attention to the fact that at the present time the mortality rate in the hands of properly qualified surgeons should be less than one per cent. Although a future reduction in operative mortality will certainly come, at the present time the risk is so small that the mere fact of operating no longer is a matter of greatest consideration in the handling of thyroid cases. The main causes of dissatisfaction with operative procedures are not the mortality rate but the poor results that come from poor judgment in the selection of cases and the operative technique. Our modifications of the Halsted technique have, we believe, made the operation and the control of hemorrhage easier and have reduced the danger of injury to the recurrent nerves and parathyroid bodies.

TECHNIQUE. 1. The patient is placed on the table without hyperextension of the head and without much elevation of the chin. This position allows the greatest relaxation of the sterno-cleidomastoid, sterno-hyoid and sterno-thyroid muscles; consequently they can be retracted with much greater ease. The gland can also be delivered out of the wound much farther and much more easily. The advantages of this relaxation more than compensate for the apparent hole that one has to work in.

2. A straight collar incision is made high enough so that the resulting scar will be above the inner ends of the clavicle. This is usually determined by marking the skin, while the patient sits up and has the head flexed. In this way the scar can often be placed in a natural wrinkle of the neck. A scar that comes over the ends of the clavicle and manubrim is usually very conspicuous and unsightly.

3. The skin and divided platysma muscle are retracted, exposing above the thyroid cartilage and below the suprasternal notch. This can usually be done without any injury to the external and anterior jugular veins. We believe that the division of this muscle and its careful restoring, lessens the ultimate width of the scar. Certainly the careful suture of the platysma muscle allows a very early removal of the skin sutures, which avoids the danger of the cross marks. Our sutures are removed at the end of forty-eight hours.

4. The sterno-hyoid muscles are separated in the midline, from the thyroid cartilage down to the sternum. For a great many years we have not found it necessary to divide these muscles.

5. The sterno-hyoid muscles are separated from the sterno-thyroid muscles, back to the neurovascular bundle on each side. This can be done very easily, by blunt dissection and usually without the necessity of tying a blood vessel. When this is done, one can usually break through the thin fascia at the posterior margin of the sterno-thyroid muscle and thus completely free the posterior part of the superior pole. One should not attempt this except at the upper pole, for at the middle of the gland and lower, the veins that run from the thyroid gland over to the jugular vein may be easily injured.

6. The sterno-thyroid muscle is split, freed from the gland and retracted under the sterno-hyoid muscle, which has previously been slid under the sterno-mastoid muscle. In the freeing of this last muscle, it is very

helpful to get as close to the thyroid gland as possible, without injuring it or its vessels.

The anatomical studies of Dr. William Andrus show that the freeing of these two muscles paves the way for a very much easier and wider exposure of the thyroid gland. It allows both the sterno-hyoid and sterno-thyroid muscles to slip easily under the sterno-cleidomastoid muscle, whereas if it were not done, the binding fascial planes prevents their wide retraction.

7. After freeing the upper pole, especially far posteriorly but not in the middle of the gland, the finger is slipped behind and above it. The upper pole is then delivered downward and forward into the wound so that its vessels can be easily clamped.

8. The superior pole vessels are then divided between Ochsner clamps, leaving none or as much of the thyroid gland at the upper pole as the case requires.

9. The upper end of the thyroid gland is then pulled laterally, so that it and the upper margin of the isthmus can easily be freed from the trachea.

10. By pulling the divided end of the thyroid gland across the trachea and upward, the middle portion of the gland and the lower pole can easily be freed back to the trachea and lifted into the wound. In this step, it is essential to ligate the vein or veins which run from the gland out to the jugular vein. By staying very close to the gland, the recurrent nerve is freed and allowed to drop back away from danger of the further steps of the operation.

11. With blunt forceps, the tracea just below the isthmus, is exposed.

12. The inferior thyroid vessels are then clamped and divided just after their entrance into the gland.

13. The superior and inferior poles of the lobe are next held upward and mesially, allowing the application of clamps along the posterior part of the gland. The line of application of these clamps is determined by the amount of gland that should be left for the patient.

14. The gland is divided, just distal to the row of clamps, to the anterior wall of the trachea. In the application of additional clamps, we try to clamp the individual vessels in order to avoid damaging the thyroid tissue.

15. The isthmus is next freed from the trachea. At this point the operation is halted until all vessels on this first side are carefully transfixed and ligated with silk. This procedure not only gets rid of a lot of clamps, but allows you to see exactly how large a portion of the gland has been left on this side. In this way, you can judge more accurately just how much gland you should leave on the other side.

16. The operation on the opposite side is then done in exactly the same manner, except that traction on the freed isthmus makes the procedure easier.

17. The retracted muscles, the cut platysma and the skin, are then sutured loosely with interrupted fine silk sutures. In some cases, a soft rubber protective drain is used for twenty-four hours. When this is done, an untied skin suture is left in place to be tied when the drain is removed. With this procedure, the site of the drain is never visible.

Comments.—The above operation is the typical procedure for an exophthalmic gland. However, the essential features of it are employed in all types of goitre. It is usually the easiest method of delivering substernal goitres, and it is equally applicable to the nodular or adenomatous type of gland.

Of tremendous importance is the amount of the gland that should be left to the patient, and the procedure is often slightly modified to meet the requirements of the judgment of the operator in this respect. In the typical exophthalmic case, we leave no thyroid tissue at either the superior or inferior poles, for we believe that to do so increases the risk of having recurrences. In such cases, we also leave a relatively small posterior strip of gland along the trachea. With the introduction of the use of Lugol's solution and the consequent great reduction in the size of the gland before operation, we are leaving less

of the gland than we used to leave. The small amount that you do leave probably increases in size to the amount that it was before the use of Lugol's solution was begun. In the nodular goitres, where it is usually desirable to leave as much apparently normal gland as you can and where the danger of recurrence is less, we leave thyroid tissue at both poles as well as along the side of the trachea. We are almost uniformly practicing a bilateral resection of both lobes in cases of nodular goitres, instead of enucleating nodules.

Pre-operative Preparation.—It is difficult to give any definite routine, for some slight variation in pre-operative treatment is usually demanded by each patient. However, we shall discuss briefly some of the more important things that we do.

I. Rest prior to operation is essential. The duration of this varies with the toxicity of the patient and his response to the pre-operative therapy, but we insist that everyone, even the apparently non-toxic cases, have at least one full day of absolute rest.

II. Lugol's solution is given in every case. The amount varies from ten to twenty minims, four times a day. The obviously toxic cases get the largest doses. Here, also, the duration of this therapy varies with the toxicity of the patient, and his response to the drug. It is usually between five days and two weeks that one gets the impression that this drug has had its optimum effect. The response to its use is always more satisfactory if the patient has not previously been taking Lugol's solution. Indeed, some of our very sick patients, who have been taking the medicine for a long time, seem to do better and to get in better condition for an operation by withdrawing its use entirely. In the non-toxic or relatively mild cases, we permit the patients to take the medicine at home for several days before entering the hospital, and thus shorten the period of pre-operative preparation.

III. Luminal, grain one, is usually given three times a day. More or less may have to be given, depending upon the excitability of the patient and his susceptibility to the drug. At any rate, enough is given to make the patient sleep a great deal. At ten o'clock the night before the operation, three grains are given and are repeated one hour before operation.

IV. Patients with nodular goitres and all thyroid cases beyond the age of forty are partially digitalized before operation whether or not there is an irregularity of the heart action. We do this in order to have the patient partially digitalized during the first forty-eight hours after operation, for we can not foretell what case will develop a distressing auricular fibrillation during this period. Many cases, particularly the long standing ones, will have a perfectly regular heart action prior to operation and then suddenly develop an irregularity afterwards and, in such cases, it is a comfort to have them somewhat digitalized. Any patient, regardless of age, who has weathered a long storm of hyperthyroidism, should, I think, be partially digitalized before operation.

V. Food and fluids should be given most freely. Carbohydrates are the best food. We encourage our patients to eat candy and this suggestion often brings a look of surprise, for many of them have denied themselves sweets for a long time. We often set a limit of 3000 to 5000 cc. on the fluid intake. If a patient does not coöperate in this respect, a large subcutaneous injection of salt solution not only does good, but it usually insures coöperation thereafter.

VI. The patient's mental attitude should be very carefully prepared for the operation. Minimizing the danger of the operation and stressing the good that it will do, helps a great deal. Pointing out the gloomy future, but for the operation, often gives them a different viewpoint. We often say that you are lucky your heart trouble is due to a goitre. When you have instilled into your patient a feeling of absolute confidence, when you have made them eager for the operation by hope

of relief, you have done a good job of psychotherapy.

VII. One's general impression of a patient's condition is often a most valuable guide as to his preparation for operation. Disappearance of an anxious and strained expression, loss of fear and a steady pulse rate, mean a great deal more to us than a drop in the basal metabolic rate. On the other hand, a great drop in the metabolic rate without a calmness of temperament and the pulse, will not make us decide to operate. We rely so much on these general evidences of a patient's preparation for operation and so little on the fall in the metabolic rate, that we seldom make the latter determination after preoperative preparation has been begun.

Anesthetics. We are strong advocates of local anesthesia, but we do not insist on it unless the patient is so toxic or has such a bad heart that we think a general anesthetic will make a real difference in the convalescence. We employ it in over ninety per cent of our cases and are convinced that the convalescence is easier and the reaction less severe than after a general anesthetic. In a recent talk with Crile, he expressed the belief that a general anesthetic could not help depressing or affecting one's vital processes. When we do use a general anesthetic, nitrous oxide alone, nearly always suffices. We have tried avertin, but personally do not like it. Some of the operators in the General Hospital are, however, still giving it a trial.

Post-operative Treatment.—I. During the first forty-eight hours the patient is kept very quiet and in a medium Fowler's position. Morphine is used freely if necessary. Luminal is given if there is no nausea. Not infrequently, patients with hyperthyroidism will be nauseated by morphia; in such cases, pantopon may be tolerated more easily.

II. Lugol's solution, minims 15, is given every four hours until we are sure that the patient has passed the peak of his reaction. This usually occurs in the second twenty-four hours. After that the amount is reduced gradually and is usually discontinued in four to ten days. We give it by mouth, but whenever any given dose is vomited, three times the amount is immediately given per rectum.

III. The amount of fluid intake is kept very high and is given by mouth or, subcutaneously, if necessary. Most all toxic cases are given 2500 to 3000 cc. of normal salt solution subcutaneously immediately after operation. A patient who has the maximum quantity of fluids, Lugol's solution and digitalis in his system, is much less likely to have a so-called thyroid crisis and is much better able to stand one if he gets a serious reaction. Nourishment, particularly carbohydrates and fluids, are given very freely by mouth just as soon as there is no nausea. The pain of swallowing is not considered an excuse for not taking them.

IV. One-half the stitches are removed after twenty-four hours and the rest of them between forty-eight and seventy-two hours after the operation.

V. The patient is watched at intervals for several months, and is given definite instructions as to what to do with regard to diet, exercise, rest, excitement, etc. In this period we often bargain with patients. For instance, we may tell them that they can smoke, drink coffee, or do certain other things after they have gained a certain number of pounds in weight.

Complications.—The above post-operative treatment takes care of practically all cases, but does not provide for the complications. We shall make mention of a few of the most important ones. Hemorrhage will occasionally occur even when the operations are done by the most skilled surgeons. By doubly ligating the pole vessels and by making the patient cough violently before closing the wound, in order to test any vessels that are not properly ligated, we have reduced the incidence of post-operative hemorrhage to a very rare occurrence. Drainage of the wound is not a safeguard against it, for if it occurs, the wound will fill up and cause distressing symptoms even when a drain is inserted. If the nurses and assistants are trained to watch

the contour of the patient's neck and the ease of breathing, these hemorrhages can usually be detected very early. When it does occur, the wound should immediately be re-opened and the bleeding stopped. If this is done early enough, the wound can usually be re-closed exactly as it was at the primary operation.

Respiratory distress is rarer, but does occur. It may be caused by injury of the recurrent nerves at the time of operation or it may occur later as a result of irritation or temporary paralysis of them due to edema, etc. Our belief is that the so-called collapse of the trachea never occurs; the trouble is always due to a disturbance in function of the recurrent nerves. When this complication arises, the respiratory obstruction throws a great strain on the patient's convalescence. It is a particularly heavy burden to be loaded onto a cardiac case. Although we have never had to do it, we would not for a moment hesitate to do a tracheotomy in order to relieve the patient of the work of trying to get air. The tendency in these cases, we are sure, is to wait too long in the hope that the trouble is due to a temporary paralysis of the nerves and will pass off with a subsidence of the wound reaction. The exhaustion from respiratory labor may be enough to make the difference between recovery and death. Early tracheotomy adds only the complication of a mild wound infection, and it relieves the exhaustion of respiratory obstruction. If the obstruction is temporary in nature, the tracheotomy wound heals very promptly after its disappearance; if permanent, the tracheotomy wound will have to be permanent. If the tracheotomy is done after the patient is completely exhausted, it may be too late to avert death.

The first symptoms of tetany should be detected. Restlessness, inability to sleep and occasional double vision, are enough to warrant the taking of a blood calcium determination. If it is 8 mgm. or less per 100 cc. of blood, one is justified in giving calcium lactate by mouth. Early treatment will avoid the necessity of intravenous therapy and the consequent danger of getting calcium chloride into the tissues. Trousseau's or Chvostek's signs are warnings of impending convulsions, but even if these are detected early, intravenous therapy and the use of parathormone can usually be avoided. In a recent case in which the goitre was retrotracheal, the patient complained of occasional double vision on the fourth day and held her thumbs slightly pulled in toward the palms. The blood calcium was 7 mgms. Calcium lactate 1 dram four times a day, and viosterol drops 10, three times a day, completely relieved her symptoms. These doses were gradually reduced to three a day without any symptoms, but when completely discontinued on the tenth day, her symptoms returned. It is too early to tell whether this is a temporary disturbance to the parathyroid bodies or whether she will have to continue indefinitely the medication. We are sure that the early recognition of her symptoms avoided urgent measures for treatment. In any case, the treatment should be withdrawn as soon as possible, in order to stimulate the development of any parathyroid tissue that may be left. Experimentally, the least portion of parathyroid tissue left behind, or even transplanted into some other part of the body, will grow and furnish an adequate secretion. As soon as patients with tetany learn to recognize the characteristic feelings and signs of the trouble, they can be trusted to reduce the dosage of their medicine, for at the first evidences of its return, there is no question but that they will begin the medication or increase its amount immediately. The general feeling of the patient with tetany must be a very distressing one.

When one has not been successful in anticipating and preventing a so-called thyroid crisis, we employ the following measures: (1) Secure absolute rest. Strong sedatives are necessary, such as morphine, pantopon and paraldehyde. The dosage required is much more than the average; the amount necessary can only be judged by the effect

that is obtained. Some authorities give amytal intravenously when other sedatives have failed to give rest. (2) Great quantities of normal salt solution and glucose solutions are given subcutaneously and intravenously. (3) Lugol's iodine is given in large doses. (4) Five cc. of a ten per cent solution of sodium iodide is sometimes given intravenously. (5) The patient is immediately put into an oxygen tent or chamber. This procedure reduces markedly the work of breathing which would otherwise be necessary to meet the demands of the great increase in metabolic processes. (6) The patient is kept fully digitalized. As this is usually done prior to operation, it is only necessary to supply the daily amount that is excreted. Some operators give 1/125 of strophanthus, intravenously. In every case the advice of a cardialogist should be secured. (7) The administration of thyroxin has been employed by Rogers and others. Our limited experience with its use does not allow us to comment on its value.

Summary.—1. Thyroid intoxication is a metabolic disease involving the whole organism. It is especially related to disturbances of the other endocrine glands, and the sympathetic, parasympathetic, and somatic nervous systems.

2. In frank thyroid intoxication which requires operative treatment iodine should never be used except during the pre-operative and post-operative management. In a certain percentage of the toxic nodular goitres the response will be a harmful one.

3. In outspoken cases of Grave's disease, radical resection of the thyroid gland is now the therapy of choice. It is likely that when the true cause is determined operations for all diffuse changes will not be necessary.

4. All nodules in the thyroid gland are potentially dangerous and, if persistent after 25 years of age, should be resected.

5. Clinically there is a vast difference between thyrotoxicosis due to diffuse changes and that due to nodular changes. As long as we bear this in mind I do not think it makes any fundamental difference whether we speak of adenomas, nodules or localized hyperplasias of the thyroid gland.

6. Operating on puberty and adolescent goitres is rarely indicated unless the disease becomes a clear cut case of exophthalmic goitre. Iodine, sometimes thyroid extract and radiation therapy may occasionally be helpful in the management of these cases.

7. Operating upon cases of neuro-circulatory asthenia and cardiac "effort syndrome" brings only discredit upon the procedure of thyroidectomy.

8. The basal metabolic rate should not be regarded as a certain index of thyroid intoxication. It has a positive but not a negative value.

9. In some cases of "burned out" diffuse goitres and many cases of nodular goitres there may be serious cardiovascular disability when the basal metabolic rates are normal or subnormal.

10. All cases of cardiac disability associated with nodular goitres, "toxic" or "nontoxic," should be subjected to a thyroidectomy; the results usually far exceed expectations.

11. If thyroid intoxication occurs during pregnancy treat the hyperthyroidism without considering the pregnancy.

12. The mortality of thyroid surgery should be less than one per cent.

13. Dissatisfaction with thyroid surgery is not due to the mortality rate but to poor judgment with respect to the selection of cases, and the amount and condition of the gland left.

14. The reduction in size of diffuse glands due to the involutional changes brought on by the use of iodine makes it necessary to do more radical resections than we used to do in order to allow for the increased size and activity following the discontinuance of the use of iodine.

15. The author's technique is described and illustrated. The routine pre-operative and post-operative treatment of cases is also outlined.

Abstract of Discussion

DR. ROBERT KING BUFORD, Charleston: The thorough and scientific manner in which the essayist has handled his subject is no surprise to those of us who are interested in goitre.

The physiological changes which occur in toxic goitre are mainly dependent on the increased metabolic rate. The most prominent cardiac effect of hyperthyroidism is excessive rapidity of the heart beat. An increase in metabolism is accompanied by an increased demand of the tissues for oxygen. The demand is met by increasing the amount of air breathed each minute and by alternations in the circulatory system that favor an increased rate of flow of blood. Acceleration of cardiac rate is the first attempt of the body to increase flow of blood, and is a usual accompaniment of increases in the basal metabolic rate.

The diagnosis of hyperthyroidism can, as a rule, be made in the office from the history and physical examination. Perhaps the most important laboratory aid in arriving at a proper diagnosis is the basal metabolic test. Patients with cardiac decompensation usually exhibit a slight elevation in the basal metabolic rate, rarely over twenty per cent. It is absurd to tell a patient that a basal metabolism will be made to see if he has a goitre.

Nodular goitre or so-called adenoma of the thyroid gland may be termed the end result of a neglected or unresponsive adolescent goitre. I have come to feel that this type of goitre is not innocent. Symptoms of thyroid intoxication due to periods of mild thyroid over active and frequently overlooked by the clinician because when he sees them the basal metabolic rate is within normal limits. Our records show that a number of these cases have been relieved of fatigue, nervousness, tachycardia, and other symptoms, in spite of the fact that basal metabolism was normal and the indications for operation were pressure symptoms. I am firmly convinced that all adenomas in patients past twenty-five years of age should be removed.

Pregnancy complicated by hyperthyroidism can be successfully treated by subtotal thyroidectomy up to the fifth month of pregnancy. We prefer to treat them medically from this time to term, keeping the gland saturated with iodine. The normal physiological increase of thyroid activity during pregnancy is usually twenty to twenty-five per cent. I have followed over fifty cases that had subtotal thyroidectomies during pregnancy. They had normal deliveries and babies. I advise all cases that are operated for toxic goitre to wait two years before becoming pregnant.

Except as to fundamental principles involved there can be no standardizaztion of the pre-operative preparation of patients with hyperthyroidism, the method must be adapted to the individual patient. Hyperthyroidism before operation may be divided into three groups: (1) uncomplicated cases, (2) those with cardiac decompensation and (3) those with extreme toxicity manifested by nausea, diarrhea and delirium.

The most common complications which result from thyroid surgery are injury to the recurrent laryngeal nerve, hemorrhage, acute hyperthyroidism and cardiac failure.

A thorough knowledge of the anatomy of the neck and the performance of an anatomical operation, leaving a small portion of each lobe over the posteria capsule, will prevent injury to the recurrent laryngeal nerve.

Hemorrhage is controlled by ligating each vessel separately, avoiding mass suture. Cardiac failure should be prevented by better selection and preoperative care. We give digitalis only to those patients showing cardiac decompensation. Acute hyperthyroidism is controlled by the preliminary administration of Lugol's solution, except in cases that have chronic hyperthyroidism due to indiscriminate and prolonged use of iodine.

DR. REID (closing the discussion): I am very grateful to Dr. Buford for his generous discussion. I am glad we agree on so many points with respect to thyroid intoxication.

I am particularly interested in his discussion of hypothyroidism and of its treatment being based upon the cholesterol content of the blood. Some of my statements should not be taken too literally. There are probably a great many cases with tiny nodules in the thyroid gland, the size of a pea or a cherry, which it is wiser to let alone. The statement I made regarding operation refers to nodules of a fairly definite size.

I agree with Dr. Buford that there does come a time during pregnancy when it may be wise not to operate. Whereas he rarely operates after the fifth month, we have performed a few operations as late as the seventh month. One necessarily has to be influenced by the amount of damage that the goitre is causing.

SOCIAL INSURANCE IMPOSSIBLE TO ABOLISH WHEN ONCE ESTABLISHED

By EDWARD H. OCHSNER, M.D.

The worst feature of social insurance is the fact that when this parasite once gets its suckers well fastened into the vitals of a nation nothing short of either national bankruptcy, a dictatorship, or a revolution will be able to loosen its hold.

Germany, which has had social insurance on its statute books the longest, has for a considerable time been on the verge of bankruptcy. While other facts are operative, we believe that the billion dollars which social insurance costs the nation every year is one of the chief reasons why Germany is unable to make a satisfactory 'come-back' to normalcy.

England is not much better off. The chief reason for England's present difficulties is the terrific burden of taxation which she has to carry. One writer says: "A complete understanding of the problems confronting England at the present time involves going back to 1909 when we had just adopted old age pensions and destroyed the foundations of thrift." In 1911 England introduced national insurance when three per cent of its workers were unemployed. After twenty years of operation of the act, seventeen per cent of her workers are out of work. As a partial explanation for this condition let us cite just one example from among scores and hundreds that could be given. A manufacturer found that his orders were only sufficient to give work to all his employees four days a week so he called his workers together and told them the facts. The workers, however, insisted that they would work only three days a week in order that they could draw the dole for the other three days. An English writer commenting on this says: "It is a great mistake to worry about the much discussed abuses of the system. It is the system which is fundamentally wrong and abuse is inseparable from it."

To get an idea of the tax burden which England is carrying, we need but cite facts. In that country all incomes of seven hundred and fifty dollars per annum are taxed twenty-five per cent. Higher incomes carry an additional surtax. Increased taxes have increased the production-cost of practically all articles of manufacture and, as a consequence, have actually increased unemployment because English industry carrying this extra burden has not been able to compete with other countries in the world markets. In spite of these burdensome taxes and in spite of the fact that living expenses had gone down eleven and one-half per cent, the recent labor government refused to cut the sick benefits ten per cent and put the nation to the expense and turmoil of a national election practically on this issue alone.

The countries just cited are not the only ones encountering similar difficulties. A recent newspaper article contained the statement that there are more than one hundred and fifty federal boards and commissions in Washington each with three or more members drawing salaries and each with a bevy of clerks most of them just drawing salaries. Many of these were created during the World War. When a few far-sighted individuals remonstrated against the appointment of so many boards and commissions they were assured that they would all be abolished at the end of hostilities. It is now more than fourteen years since the signing of the Armistice but not one board has as yet been abolished.

Another illustration is the franking privilege to country newspapers. This privilege was extended to them when it was deemed desirable to disseminate news and information to rural inhabitants particularly to detached settlements. It was a wise and legitimate enactment at the time but now it is just a plain nuisance, and yet no congressman would dare to suggest its abolition. It is costing the taxpayer and consumer a great deal of money and serves no useful purpose. A town of ten thousand and even fewer inhabitants usually has two and sometimes three local papers all enjoying this privilege. The local merchants are compelled to advertise in all of them, the expense of which must of necessity be passed on to the consumers. Incidentally this favors the mail order house to the detriment of the local merchant.

There are many reasons why it is almost impossible to repeal the laws governing such practices. One reason is that executives and legislators do not want them repealed because it reduces the power which they derive through political patronage. The more patronage the individual in office has at his disposal, the more difficult it is to dislodge him. Even today it is very difficult to defeat a public office holder with large political patronage, no matter how

inefficient he may be, except by another who either already has large political patronage or who promises jobs to his supporters irrespective of their qualifications. Thus in many elections the voter is simply left to choose between two undesirable candidates. Already the number of payrollers has become so large and so politically active and influential that they wield great power in both political parties. If we then add compulsory health insurance we will add further thousands to the lists of our civil employees. Those who are not in government employ will be powerless to control government and their only function will be to pay the taxes which others impose upon them. Instead of increasing the number of government officials and employees, the ideal to be constantly kept in mind and striven for in this country is to permit the private citizen to perform all those functions that he can best perform and that make for independence, self-reliance, and strength of character and to have the government do only those things which the individual can not do satisfactorily. We maintain that centralization in government and paternalism have already gone much too far and that social insurance would simply be another step in the wrong direction.

Another reason why it will be difficult to repeal such laws is the fact that men in the different services of the government do not dare to expose its faults for fear of being accused of disloyalty. Reports must be couched in the most mild and ineffective language possible and then they must not be released to the public but allowed to die as still-births in the departments. We all know what happened to General Mitchell who dared to disregard these rules. Major-General Robert Alexander also tells in the introduction to his *Memoirs of the World War* just how this worked in at least one other instance.

In most countries which have social insurance such laws were first suggested and urged by welfarers, uplifters, and visionaries who unwittingly played into the hands of practical politicians. Even now few seem to realize that bureaucracy in a republic may become just as unreasonable, oppressive, and ruthless as a despotism.

It will be interesting to see whether we shall be able to profit by the experience of others or whether as a nation we belong to that class of human beings who can learn only by dire personal experience or from national disaster.

(The next article will offer a number of counter-suggestions in place of social insurance.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

Sleep, so necessary to human existence, and especially so to the tuberculous, depends upon the individual's ability to relax. Relaxation in turn depends at least in part upon wholesome physiological fatigue. In recent issues of the *Journal of the Outdoor Life* there are three articles which summarize the latest scientific thought on this subject. Dr. Kleitman is Associate Professor of Physiology at the University of Chicago; Dr. Jacobson is Assistant Professor of Physiology at the University of Chicago; and Dr. Rice is Professor of Epidemiology at the University of Indiana School of Medicine. A study of their articles will repay the physician who is dealing with tuberculosis or any other type of "nervous" patients.

SLEEP, RELAXATION AND FATIGUE

Sleep in Tuberculosis.—Sleep is generally looked upon as the most complete form of rest and is therefore of paramount importance to the tuberculosis patient. The sleeping person takes no notice of events and does not respond to changes in his environment.

The position of the body in sleep is of relatively little importance, since no position is held for any great length of time. The average time between stirs as determined by actual tests is about ten minutes and the longest about one hour. Since these movements are of very short duration the total time one spends in moving about probably does not exceed five minutes in a night. Sleep, then, may be looked upon as a period of almost complete muscular inactivity.

During sleep there is a decrease in activity of the heart, which leads to a lowering of the arterial blood pressure. These in turn decrease the danger of hemorrhage in disease. The absence of disturbing external influences also has a beneficial effect upon the circulation and respiration.

Sleep decreases the basal metabolism and tends to reduce the temperature. Muscular activity results in the production of large quantities of heat, which can not be dissipated as fast as they are produced. This leads to a temporary rise in tem-

perature. Through rest in bed and sleep one can hold the temperature at a lower level.

Practically all of the glands in the body secrete less during sleep than during the waking state. A notable exception is found in the sweat glands, a fact which is well known to the tuberculous. The cause of increased secretion of sweat in sleep probably represents an attempt of the body to get rid of an excess of heat accumulated because in insufficient ventilation of the space between the skin and the bed clothes and also of the bedroom.

There is decreased wear and tear of the living matter of the body during sleep and a consequent upbuilding, which is especially beneficial to the the tuberculous. Under these conditions it is desirable to increase the duration of sleep as much as possible.

Everything tending to cut out sensation favors the onset of sleep. The newborn baby sleeps for eighteen to twenty-four hours a day, waking up every four or five hours because of hunger or discomfort, but such a baby is blind and deaf for the time being and experiences none of those sensations that may disturb an adult. Sound sleep is promoted by regular hours and regular habits. Worry, fear, anger or undue excitement may produce restless sleep because they interfere with relaxation. When one can not sleep, it is well for the sufferer from insomnia to give up trying and to resign himself to lying awake. It should be noted that the decrease in muscular, circulatory, respiratory, and metabolic activities occuring in sleep is largely due to rest in a horizontal position, and lying quietly awake, therefore, is nearly as good as asleep.—*Sleep: Its Value in Tuberculosis*, N. Kleitman, Ph.D., Jour. of the Outdoor Life, Feb. 1932, p. 89.

Relaxation in Tuberculosis.—Observation of tuberculosis patients during their daytime rest-hours generally reveals incompleteness of relaxation. Patients confined to bed for a long time show various forms of restlessness, particularly in the form of excessive unproductive coughing. Unrest shows itself also in the form of so-called mental symptoms or "nervousness." A more fitting phrase is "high nerve-tension."

In such so-called nervous symptoms, there is always contraction of muscles, which occurs when the nerves leading to and from the muscles are in action. These muscular contractions, no matter how slight, can be measured and charted by a galvanometer.

When muscles contract, movements occur in tendons, joints and skin, producing sensations in these several regions, which may be grouped together under the name "Proprioceptive sensations." This term may be used to include all sensations aroused by changes within the body of the individual contrast with those aroused by changes without, such as sound or light. Patients may be instructed to relax, and as they do so there is a corresponding diminution of proprioceptive sensations. Progressive relaxation brings about not merely muscular, but also mental rest.

Merely advising a patient to relax does not accomplish this desired end. He must be instructed just as he would if he wished to learn mathematics or golf. The patient who suffers from restlessness, insomnia, excessive mental activity or emotion, or from spastic states does not learn to be relaxed in a week or a month. A prolonged period of training is required during which the patient gradually learns to recognize tenseness, even if slight, and acquires the ability to relax until relaxation becomes automatic. In this way he learns also how to avert fatigue.—*Relaxation and Pulmonary Tuberculosis*, Edmund Jacobson, Ph.D., M.D., Jour. of the Outdoor Life, Apr. 1932, p. 209.

Fatigue, Good and Bad.—There are easily a half dozen physiological states that are commonly called fatigue. Yet none of them is the real thing in the strict sense of the word, such as the experimenter in physiology produces when he stimulates a muscle until it can not act any longer. Lack of muscular exercise, with its consequent stagnation of blood and lymph may be one false form of fatigue. Another may be laziness or a similar state brought about by suggestion. Or boredom may be confused with fatigue. A man waking from a sound sleep may think he is tired out, but the process of stretching, yawning, or bathing soon drives his so-called fatigue away.

Fatigue may be described under two forms, physiological fatigue and pathological fatigue.

Physiological fatigue is one of the greatest boons in human exsitence. It results from the expenditure of muscular and mental energy in doing a task which one feels is worth while, and from which he receives a resultant satisfaction.

Pathological fatigue, however, may be positively devastating in its effects. The pathologically tired person is "too tired to eat," "too tired to sleep," "too tired to get out and have a good time."

PRESIDENT'S PAGE

THIS is distinctly an installment age. Regardless of the merits of this system, the buying public has given it hearty approval. Recognizing this attitude, many agencies are attempting to render medical and hospital service through fixed periodic payment. This is especially widespread on the Pacific Coast. In some instances it appears to have met with fair success; while abuses have nullified the good features in other sections. The blame for the latter can be attributed to individualistic handling. Each group or individual, both lay and medical, has attempted to handle this vast subject according to its own ideas. Their views are often influenced more by selfish motives than the welfare of the public. Physicians not affiliated with such groups are often given no consideration. High-jacking may be the mode of procedure in the underworld, but it will not long survive in our profession. State medicine or some form of health insurance would soon replace it.

The question confronting us, and one that must be dealt with in the near future, is whether the public desires monthly payment for medical and hospital service. One must admit that sentiment is very strongly in favor of it among industrial workers. If this type of practice continues to spread, shall organized medicine stand on the side lines and watch insurance companies take over the practice of medicine, or shall we see some form of state medicine in which lay welfare workers direct the policies of caring for the sick? The successful operation of either method will depend largely upon the exploitation of the medical profession. He who sells his medical birthright then and there becomes the tool or pawn of the exploiter.

We have looked in vain for advice and some signs of leadership from our national association. Ours is the first medical association, either state or national, to take a definite stand on these matters. Through coöperation with the American College of Surgeons, we are attempting to solve the problem of medical care of industrial workers. This will soon cause the medical profession from coast to coast to closely follow the course and outcome of the courageous stand taken by our association. Those not practicing in industrial sections should note that the next era of prosperity will convert many rural sections into industrial centers. Our state association is attempting to work out a much needed program for the benefit of every physician within the state. It needs the hearty coöperation of all physicians who desire that the practice of medicine remain under the control of our profession.

The West Virginia State Medical Association has had an enviable legislative record for the past five years. Full credit is due our Executive Secretary and the various committees for their great service. Close coöperation of our membership will render their work much easier and will tend to prevent any adverse legislation in the future.

Albert H. Hoge

President.

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MEDICAL SUPERVISION

In an editorial published in the July issue of THE WEST VIRGINIA MEDICAL JOURNAL, the following statement appeared, "Our only quarrel is with the system in West Virginia which places medical problems in lay hands." Commenting upon this statement, the *Morgantown Post* recently said, "The *Medical Journal* should perform the greater public service of suggesting in precisely what way the medical problems of West Virginia should be taken out of lay hands."

We gladly accept this challenge. To remedy the present situation we ask that a board of supervisors be created, similar to the board of governors of West Virginia University, with complete medical supervision over all of the state institutions caring for the sick. We ask that this board of supervisors be appointed by the Governor from an adequate list of physicians submitted by the West Virginia State Medical Association.

Speaking generally of the duties of such a board, we feel it should be empowered to appoint the superintendents of all state institutions caring for the sick and that the superintendents of all such state institutions should be made directly responsible to this board. The board should have nothing whatever to do with the business administration of these various institutions as such details quite properly belong in experienced lay hands. This board should serve without pay but should, perhaps, be allowed a nominal sum for travelling expenses and incidentals. It should naturally have the authority to inspect and investigate any of the state institutions at any time.

Here is our solution in a nutshell, and we feel that it is a simple and straightforward remedy. This arrangement would, of course, place considerable authority and responsibility with the West Virginia State Medical Association. It would place even more with the board of medical supervisors. Yet who should have the responsibility for looking after the sick wards of this state, if not the medical profession?

At the present time the heads of all state institutions caring for the sick are appointed by the Governor. Is the Governor, who is a layman, the proper person to determine the qualifications of a trained physician? The Governor could, if he so desired, seek the advice of the medical profession about such appointments. The present trouble is that the Governor does not HAVE to ask the advice of the medical profession. If any Governor has ever sought medical advice about his medical appointments, it was many, many years ago.

After the superintendents are appointed, they are made responsible to the Board of Control for the successful management of their respective institutions. The Board of Control is another lay group. Therefore, the Board of Control, no matter how sincere or conscientious its members may be, is utterly unqualified to judge the value of the medical service rendered the sick wards of the state. Undoubtedly the Board of Control renders the state a most valuable service in supervising the business management of the state's institutions, but that does not qualify the Board members to pass upon the end results of medical practice. Only the most skillful and experienced physicians can do that.

Of course, both the Governor and the Board of Control could come to the medical profession for advice about these medical problems. The fact is, however, that they do not. If they did, the situation would not be nearly so bad as it is now. Even if we

assumed that the Governor and the Board of Control sought medical advice on their medical problems, would it not be much simpler and much wiser to eliminate this second-hand system of remote control and place the medical problems directly in medical hands? If that were done, then the Governor and the Board of Control would both be relieved of a responsibility which neither is qualified to bear.

This lack of fitness is not the fault of the Governor nor of the Board of Control. It is the fault of the system which places such responsibilities in their hands. Some one must accept the responsibility for the sick wards of the state. Again we ask, Why not place this medical responsibility in medical hands?

We submit our remedy herewith to the Democratic and Republican candidates for Governor of West Virginia. We would like to know how they feel about this matter which is of such vital importance to the welfare of scientific medicine in this state. We feel that both Mr. Townsend and Judge Kump are familiar with the present deplorable condition of our state hospitals for the insane. We shall be glad to publish the statements of either or both in the next issue of the JOURNAL.

MEDICAL WHISKEY PERMITS

To those members of the Association who wish to secure permits to prescribe medicinal whiskey under the recently enacted Tabor bill, we wish to advise that applications should be sent to both the state commissioner of prohibition, Charleston, and to Mr. Charles H. Whiting, Supervisor of Permits, Richmond, Virginia. Mr. Whiting is located in Room 1009, Grace Securities Building, Richmond.

Many queries have been received at the Association headquarters relative to the provisions of this bill. There is nothing in the new law to permit a physician to dispense whiskey to office patients and, contrary to a somewhat general opinion, physicians will not be able to secure whiskey for office use. Each physician, upon proper application, may secure 100 prescriptions each three months. Each prescription is for one pint of whiskey and no person may receive more than one prescription each 90 days.

Permit applications may be filed at once by doctors who desire to prescribe medical whiskey. A letter to Mr. Whiting, simply requesting the necessary blank forms, will bring these forms with complete instructions as to how they shall be filled out. As yet the necessary blanks have not been provided by the state prohibition department but they will be available when the law goes into effect on November 17. A letter to the prohibition commissioner now will bring the necessary state forms when they are printed. There is no tax or expense involved in either of these transactions.

The rumor has been circulated at various times that an effort will be made to declare the Tabor bill unconstitutional. The Supreme Court ruling on September 20 which upheld the abolition of the state bridge commission will probably put an end to these rumors. The Supreme Court held that the legislature was entirely within the state constitution in passing any measures that reduced expenditures or raised revenue toward balancing the state budget.

Under the national prohibition act, the federal machinery is already set up to carry out the new law in West Virginia. The supervisor has advised that his department is going ahead with the insurance of permits on the assumption that the Tabor bill will become effective on November 17, 1932. It would probably facilitate matters a great deal if all doctors, who expect to apply for permits, would make application prior to the date the law becomes effective.

The Association headquarters at Charleston will be glad to answer any queries regarding the Tabor bill or the federal provisions under which it operates.

OBITUARY

DR. LUTHER C. DAVIS

Dr. Luther C. Davis, 38, prominent Fairmont physician, was killed in an automobile accident near Coleville, California, on the evening of September 5, 1932. Dr. Davis was returning with a companion from a fishing trip when the accident occurred. His companion was killed instantly and Dr. Davis died in an ambulance on his way to a hospital.

Dr. Davis was born in Fairmont in 1894 and received his preliminary education there. He attended the University of Wisconsin and later entered the University of Missouri, where he was graduated in 1916. Upon graduation he expected to become a chemist. Later he entered the University of Pennsylvania medical school and received his medical degree there in 1920.

After his graduation and a year's interneship, Dr. Davis located in Fairmont where his skill and ability soon built up for him one of the largest practices in the city. He was especially interested in diseases of the heart and had contributed a number of papers on this and allied subjects to the Journal. Dr. Davis was an untiring worker in the Association and also in the Marion County Medical Society. He was a member of both the American College of Physicians and the American College of Surgeons.

Dr. Davis lived with his mother, Mrs. Mattie D. Nuzum, in Fairmont. He had been in the West several weeks prior to the accident in which he lost his life, and expected to return to Fairmont shortly. His death has brought untold sorrow to his family, his friends, and to his host of associates in the medical profession.

EDWIN MASSIE BELL

It is with deep regret that announcement is made of the death from broncho-pneumonia, of Dr. Edwin Bell, which occurred Saturday, August 20, at George F. Geisinger Memorial Hospital, Danville, Pennsylvania.

Dr. Bell was born at Lenoir, North Carolina, October 27, 1897, the son of Edwin L. and Elizabeth Massie Bell. His early education was obtained at the Greenbrier Military Academy, Lewisburg, West Virginia. He received his Bachelor's Degree from Washington and Lee University, Lexington, Virginia, and graduated from the Medical School of the University of Pennsylvania, in 1922. He served in several hospitals in Philadelphia during the next several years and later became Chief Resident at the Episcopal Hospital in Philadelphia. In 1925 he broke down with tuberculosis and went to Devitt's Camp at Allenwood, Pennsylvania. After a period of rest and recuperation, Dr. Bell was appointed as an associate physician on the staff of Devitt's Camp. He remained with this institution until his death, creating for himself an enviable reputation as a physician and as a sympathetic and helpful counsellor to his patients.

The deceased was a member of the American Medical Association through the Lycoming County Medical Society, the National Tuberculosis Association, and was an Associate in the American College of Physicians.

Funeral services were held at Milton, Pennsylvania, on August 23, and interment was made at Lewisburg the following day.

OTOSCLEROSIS

Otosclerosis. A Clinical Analysis: Dan McKenzie, London (Jour. of Otol. and Laryng., Feb., 1932). The term "otosclerosis" is defined. As applied, the word connotes a symptom group that can be evoked by quite a number of different pathological causes inducing one particular physiological change in the ear. It is a diagnosis that is being more frequently made. Osteoporosis of the labyrinthine capsule occurs frequently without any indication of middle ear inflammation, past or present. Fraser has shown that the same bone changes are also frequently associated with an otitis media, and also that the otosclerosis syndrome may be evoked by scar tissue in the middle ear without any osteoporosis.

The author classes 622 cases seen in his own practice into three groups. The "primary" group numbers 411 cases. In these there was no history or evidence of otitis media in any form. A "secondary" group of 129 cases included those cases in which the hearing defect was associated with and probably induced by some form of an otitis media. The third clinical division contains the "incipient" cases in these, suppuration and catarrh being absent, the deafness is trifling though of long standing and uninfluenced by treatment. Of the 622 cases, 82 come under this group.

COUNTY SOCIETY NEWS

GREENBRIER VALLEY

A meeting of the Greenbrier Valley Medical Society was held at the Greenbrier Valley Hospital, Ronceverte, on the evening of September 9. Members present were Drs. J. G. Leech, J. G. Hamner, C. W. Lemon, H. L. Goodman, J. W. Compton, H. D. Gunning, L. W. Bryce, C. C. Ballard, J. R. Richardson, T. L. Gilchrist, N. R. Price, H. C. Solter, J. D. Arbuckle, and A. S. Lanham. Visitors were Drs. J. M. Emmett and H. S. Hartley, Clifton Forge, Va.; W. L. VanSant, Hinton; and W. D. Goodman, Washington, D. C.

Dr. Goodman, urologist, read a fine paper on "Resection of the Prestate Gland," and demonstrated newest methods. The discussion was by Dr. J. M. Emmett, of Clifton Forge, and Dr. H. D. Gunning, of Ronceverte.

The secretary was directed to prepare for the record a memorial of the late Dr. Harry Beard, of Lewisburg. Dr. J. R. Richardson, of Union, was elected to the Board of Censors in the place of Dr. Beard, deceased.

NORMAN R. PRICE, Secretary.

MONONGALIA COUNTY

Dr. B. S. Brake, of Clarksburg, furnished the scientific program at the September 6 meeting of the Monongalia County Medical Society which was held in the Junior High School library at Morgantown. Dr. Brake presented a most interesting paper on "Urolithiasis." The attendance was good and there was considerable discussion of the subject.

DR. G. R. MAXWELL, Secretary.

KANAWHA-PARKERSBURG

Members of the Kanawha Medical Society and the Parkersburg Academy of Medicine attended an interesting and entertaining outing at the State Hospital at Spencer on the afternoon and evening of September 13. At the invitation of Dr. B. S. Rankin, superintendent of the institution, about sixty doctors and their wives assembled on the lawn at 5 p. m., where a sumptuous plate dinner was served while the Spencer High School band furnished splendid music.

The guests were divided into parties and escorted through all parts of the hospital. All were favorably impressed with the immaculate cleanliness and the wholesome food supplied the inmates. The scientific program, which followed, consisted of presentation of patients suffering from different types and various stages of mental diseases.

Dr. Rankin and his assistants very ably discussed many points of special interest to the general practitioner. Dr. Rankin is putting into practice many of the suggestions of our state president in his annual address. His comparison of records kept in former years with those of his psychiatrist was sufficient to convince those present that the insane are being considered as sick people and are being treated as such.

After the scientific program, dancing was enjoyed for several hours. Those present feel under many obligations to Dr. Rankin and his staff for a most enjoyable afternoon and evening.

C. A. R.

KANAWHA COUNTY

Members of the Kanawha Medical Society were guests of the Charleston Kiwanis Club on September 13, when Albert P. Van Düsen, Ph.D., eminent sociologist, spoke on the subject of birth control. A large number of members availed themselves of this opportunity to hear Dr. Van Düsen.

Later the same afternoon the Kanawha Society met with the members of the Parkersburg Academy of Medicine at Spencer as the guests of Dr. B. S. Rankin at the state insane hospital there. An interesting scientific program was presented at this joint gathering.

A most entertaining afternoon and evening was spent by the members of the society at Oak Hill on September 20 as guests of the Fayette County Medical Society. An afternoon golf tournament was followed by dinner at the White Oak Country Club. After the banquet, Dr. Frank S. Johns, chief of staff of the Johnson-Willis Hospital, Richmond, made a most interesting address on "A Review of the Mortality Record in a Review of 181 Cases of Appendicitis." His lecture was accompanied by lantern slides. Discussants of the paper were Dr. W. R. Laird, Montgomery, and Drs. R. K. Buford, John E. Cannaday, H. L. Robertson, and M. F. Petersen, Charleston.

M. F. PETERSEN, Secretary.

CABELL COUNTY

A meeting devoted entirely to business matters was held by the Cabell County Medical Society at the Pritchard Hotel, Huntington, on the evening of September 8. A number of important matters were taken up and discussed by the members present.

A symposium on gall-bladder diseases featured the September 22 meeting of the society, which was also held at the Hotel Pritchard. Five different members of the society discussed the various aspects of the disease. Dr. O. B. Biern discussed the medical aspect, Dr. R. J. Wilkinson the surgical, Dr. R. M. Wylie the physiological, Dr. F. C. Hodges the pathological, and Dr. A. R. MacKenzie the radiographic.

W. W. Strange, Secretary.

FAYETTE COUNTY

One of the most successful and interesting meetings of the year was held by the Fayette County Medical Society at the White Oak Country Club, Oak Hill, on the afternoon and evening of September 20, 1932. Members of the Kanawha Medical Society were guests for the occasion and the afternoon was devoted to an inter-society golf tournament.

Following an excellent banquet at the country club, the scientific program was presented. The essayist of the evening was Dr. Frank S. Jones, Chief Surgeon of the Johnson-Willis Hospital, Richmond, who gave a fine paper on "Mortality in Appendicitis," with lantern slides. Discussants were Drs. W. R. Laird, John E. Cannaday, Robert King Buford, M. F. Petersen and H. L Robertson.

Many visitors were present for this meeting, including a number of members from neighboring societies. Among the visitors was Dr. James R. McClung, of Richwood, vice-president of the State Society.

W. P. Bittinger, Secretary.

EDUCATIONAL POLICIES

The Committee on Educational Policies of the Association of American Medical Colleges has recommended the following basic fundamental requirements for preparation for the practice of the specialties: Graduation from recognized medical college; one-year internship of general clinical work; residency or three years' experience under supervision or five years' general practice; not less than two years' graduate clinical work under supervision of a university.

GENERAL NEWS

ANNUAL HOSPITAL MEETING

The sixth annual meeting of the Hospital Association of West Virginia was held in Elkins on September 1, 1932, with approximately fifty members and visitors in attendance. Dr. A. G. Rutherford, Welch, president-elect of the Association for the past year, was elected to the presidency and Dr. T. K. Oates, of Martinsburg, was elected first vice-president. Dr. Rutherford succeeds Dr. W. E. Vest, Huntington, who has served as president for the past year.

Other officers elected at the Elkins meeting were Dr. James R. McClung, Richwood, second vice-president; Dr. R. H. Walker, Charleston, trustee; and Mr. Joe W. Savage, Charleston, secretary-teasurer.

The meeting was called to order at 10 o'clock by Dr. Vest and, following the invocation, the address of welcome was delivered by Dr. A. P. Butt, of Elkins. The response was made by Dr. Albert Hoge, Bluefield, president of the West Virginia State Medical Association.

Three papers were delivered at the morning session. Dr. Rutherford opened the program with an excellent presentation on "The Relation of the Surgeon to the Average West Virginia Hospital." He was followed by Mr. C. F. Runyon, Charleston, with a paper on "Balancing the Hospital Budget." Dr. Edward C. Armbrecht, D.D.S., Wheeling, concluded the morning session with a paper on "The Importance of Oral Hygiene in the Hospitals."

The afternoon session was opened by Mrs. Katheryn Trent, president of the West Virginia Nurses' Association, with a paper on "Nursing Facts and Fallacies." She was followed by Dr. Ward Wylie, of Mullens, with a paper on "Small Savings in the Operation of a Small Hospital." The last paper of the afternoon was presented by Dr. R. O. Rogers, Bluefield, on "An Experiment in Paying Hospital Bills on an Insurance Basis." All of these papers, and especially the last, were liberally discussed by the members present. The election of officers and the business meeting followed Dr. Rogers' paper.

Following the banquet at the Tygart Hotel, a public meeting was held in the Y. M. C. A. audi-

torium at which time the president's address was delivered by Dr. Vest on the subject, "Some Hospital Problems." Following Dr. Vest's address, Mr. Paul H. Fesler, Chicago, president of the American Hospital Association, made an address on the subject, "Relation of the State Hospital Association to the American Hospital Association." A large gathering turned out for this evening meeting.

Two important resolutions were adopted at the afternoon business meeting. The first was a resolution by Dr. R. O. Rogers dealing with small nurses' training schools. Dr. Golden's resolution dealt with the construction of U. S. veteran hospitals. The two resolutions are published herewith:

WHEREAS, the Hospital Association of West Virginia takes note of the distressing situation of non-employment of graduate nurses through out this state, and

WHEREAS, it also takes note of the fact that too many training schools are in operation in the state, especially in the smaller hospitals, thus turning out inadequately trained nurses and adding still more to the situation of unemployment;

Therefore, be it resolved, That this Association go on record as favoring the abolition of the small hospital training schools and employing where possible graduate nurses for the operation of such small hospitals.

The Golden resolution reads:

WHEREAS, the United States Government is hospitalizing its veterans at a cost above the national hospital average, without figuring in transportation, or inconvenience to the veteran and his family, and

WHEREAS, the hospitals are no better adapted for the work than the public maintained hospitals, and

WHEREAS, the public hospitals are today from one-third to one-half empty, in part due to this interference of the United States in private competition, and

WHEREAS, the immediate cost to the taxpayer becomes double to maintain U. S. hospitals that will eventually become empty buildings with no use;

Therefore, be it resolved, That the Hospital Association of West Virginia go on record as opposed to further construction of government hospitals and that efforts be made to hospitalize veterans in hospitals of their own choice thus giving them that freedom of citizenship which the constitution is supposed to grant and that the present hospitals now in operation be disposed of as rapidly as possible.

COLLEGE OF SURGEONS

The twenty-second annual Clinical Congress of the American College of Surgeons will be held in St. Louis, October 17-21, with headquarters at the Jefferson Hotel. Dr. Franklin H. Martin, Director-General of the College, informs that an instructive program of operative clinics has been prepared by the local Committee on Arrangements of which Dr. Evarts A. Graham is chairman.

Hospital standardization conferences under the direction of Dr. Malcolm T. MacEachern will be held during the first four days. Four special programs have been prepared dealing respectively with fractures, curability of cancer, industrial medicine and traumatic surgery, and the teaching of surgery and the surgical specialties. Medical motion pictures will be on daily exhibition.

On Monday evening the president, Dr. Allen B. Kanavel, will present his retiring address, "Intangibles in Surgery," and turn over the robes of office to the incoming president, Dr. J. Bentley Squier, who will deliver his inaugural address, "Fundamentals of Specialism." The John B. Murphy oration in surgery entitled, "Pillars of Surgery," will be delivered by Sir William I. DeCourcy Wheeler, M.S., F.R.C.S.I., Dublin, Ireland.

On Wednesday evening a community health meeting will be held with brief instructive talks dealing with personal health and hospital matters.

On Friday evening the convocation will be held for the incoming Fellows, and the fellowship address on "Some New Things in Physics" will be delivered by Robert Andrews Millikan, PhD., LL.D., ScD., Noble Laureate. Dr. J. Bentley Squier will deliver the presidential address entitled, "The American College of Surgeons—Twenty Years of Ambitious Effort."

Among the features of the evening meeting will be the oration on fractures by Dr. Philip D. Wilson and the oration on industrial medicine and traumatic surgery by Dr. Frederic A. Beasley. A special program on ophthalmology and otorhinolaryngology will be held at the Statler Hotel and there will be clinics on these subjects during the entire week in the St. Louis hospitals.

Among the other foreign visitors will be Sir George Lenthal Cheatle, London, and Dr. José Goyanes, Madrid.

NEW DOCTORS LICENSED

Dr. W. T. Henshaw, state health commissioner, has announced that license to practice medicine has been granted twelve doctors who passed the state medical examinations held in Harpers Ferry recently. License through reciprocity was also granted eight other applicants. Those passing the examinations were:

Jay Bigelow Bailey, Davy; Robert Ely Baer, Morgantown; Wm. Carroll Boggs, Franklin; Issac Wilson Curtis, Wheeling; Kenneth J. Hamrick, Staten Island; Hermann Leon Hegner, Pittsburgh, Pa.; John Pierpont Helmick, Fairmont; Kent Maidlow Hornbrook, New Martinsville; Edward Heavener Hunter, Buckhannon; Homer Sidney Parker, McMechen; Ralph McGraw, Follansbee; Wm. Jones Mosee, Washington, D. C.

Those licensed through reciprocity were:

Troy Patilla Bagwell, Welch; J. Tracy Bennett, Parkersburg; Joseph Mahon Moore, Charleston; Nevins Byford Hendrix, Martinsburg; Wycliffe Charles Jackson, Jenkinjones; Arthur D. Knott, Parkersburg; Herman G. Rubin, Wheeling; C. Blakeney Schoolfield, Carbon.

GRADUATE FORTNIGHT

The 1932 Graduate Fortnight of the New York Academy of Medicine will be held there from October 18 to October 28, inclusive. "Tumors, Benign and Malignant," will be the theme and the medical profession is invited to participate in this intensive two-week study of this important medical and surgical subject. The program has been arranged to cover all phases of tumors, their diagnosis and treatment.

Ten evening meetings have been arranged during which tumor growths in various parts of the human anatomy will be discussed. Speakers include Doctors W. Gordon M. Byers, Edwin Beer, Charles A. Elsberg, James Ewing, Donald C. Balfour, Daniel F. Jones, Dean Lewis, Francis Carter Wood, and others.

Thirty afternoon clinical meetings and demonstrations have been arranged in 18 of New York's leading hospitals. There is no charge for attendance at any of the clinics or meetings, but registration is required for participation in the hospital demonstration clinics.

A complete program and registration blank for the clinics and demonstrations may be secured by addressing the New York Academy of Medicine, 2 East 103rd Street, New York City.

POST GRADUATE ASSEMBLY

The International Medical Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the Murat Theatre and Shrine Temple, Indianapolis, on October 24-28, 1932. All physicians in good standing have been cordially invited to attend this session. Headquarters will be established in the Claypool Hotel and reservations may be secured through Dr. Julius H. P. Gauss, 408 Chamber of Commerce building, Indianapolis.

Among the distinguished list of speakers and lecturers will be Dr. Irvin Abell, Louisville; Dr. Arthur Dean Bevan, Chicago; Dr. Hugh Cabot, Rochester, Minnesota; Dr. Henry A. Christian, Boston; Dr George W. Crile, Cleveland; Dr. Harold B. Cushing, Montreal; Dr. John M. T. Finney, Baltimore; Dr. E. Starr Judd, Rochester, Minnesota; Dr. Dean Lewis, Baltimore; Dr. W. McKim Marriott, St. Louis; Dr. William J. Mayo, Rochester; and Dr. Hugh H. Young, Baltimore.

THE VETERAN PROGRAM

The following correspondence between the Veterans' Administration and a prominent West Virginia hospital is published herewith to show the unusual and unreasonable governmental methods in handling emergency hospitalization of veterans. The particular case is that of Veteran O. L. Glazebrook, of Boston, Illinois, who fell from a freight train, sustained a Potts fracture, and was brought to the hospital as a county charge.

In answer to a query from the hospital, the Veterans' Administration replied as follows:

"We are in receipt of communication relative to the question of reimbursement for certain expenses concerning the hospitalization of the above captioned veteran.

"In line with our telephone conversation, I desire to again call your attention to the following conditions under which the Government is obligated for such expenses.

"There are no provisions under the law whereby reimbursement can be made for the treatment of a non-service connected disability. Further, there are no provisions whereby we can pre-authorize hospitalization at a privately owned institution but only at a Government owned and controlled hospital. It must then follow that hospitalization can not be authorized and the question of reimbursement is excluded.

"The only obligation entailed upon the Government, so far as these cases are concerned, is that they are entitled to hospitalization as above mentioned, provided that bed space is available and it is feasible to hospitalize them. You will understand that it often happens that certain emergency cases arise where it is impractical to delay emergency hospital treatment and, although this be the case, there are no provisions under the law whereby reimbursement of expenses may be made as a result of such emergencies. From the standpoint of the patient this may seem unsatisfactory to you, and in all probability is, but under the law which we operate there can be no other decision rendered except as I have stated to you.

"You are further informed that if an emergency condition arises of a non-service connected disability, the kind, period of time, and nature of the individual service rendered does not enter into the case as a factor with respect to the Government's assuming obligation for medical expenses incurred.

"We make every effort to take care of these cases by hospitalization if it be possible but under the present conditions there are a great many more beds in demand than there are available."

To this letter the hospital replied:

"If there is any doubt in the minds of members of the West Virginia Medical Association about the inadequate care of World War veterans and the economic fallacy of erecting hospitals in different sections of the country, when there are thousands of empty hospital beds which could be utilized for this purpose at a greatly reduced cost, a study of this occurrence should be convincing.

"O. L. Glazebrook, of Benton, Ill., who had in his possession four honorable discharges from the U. S Army, fell from a freight train near this city and sustained a Potts fracture, was brought to our hospital and cared for as a county charge for ten days. The matter was taken up with the Department at Washington, D. C., Walter Reed Hospital, and the local Veterans' Bureau, all of them refused to assume responsibility or accept this patient at a hospital 'until they could secure a bed,' which would probably be thirty days. It was only after exchange of several letters and telegrams with the Walter Reed Hospital and Veterans' Bureau that we notified them the man would be put on a train here, and that they would find him at the station in Washington. They finally sent him *somewhere*, but still refuse to reimburse the county for his hospital expenses."

ENERGY AND EFFORT

The following editorial comment from the *Ohio State Medical Journal* is particularly appropriate at this time, because it not only is applicable to West Virginia physicians but it deals with a subject of vital importance to the future welfare of the profession. The editorial follows:

Dr. Edward O. Gertenbach, Milwaukee, writing in the *Milwaukee Medical Times*, issues a challenge to the younger generation of physicians to take a more active interest and part in organized efforts to solve some of the pressing problems confronting the medical profession.

Dr Gertenbach believes that too many physicians in the past have been indifferent to social and economic trends affecting the practice of medicine and that they are to some extent responsible for some of the confusion which exists today in the medical field.

Undoubtedly, Dr. Gertenbach is partially correct in his observation. True, many physicians have ignored social and economic trends. On the other hand, there are many who have for years been warning the profession that it must awaken and take an active part in those things which are not primarily scientific aspects of medicine.

However, his advice to the present and oncoming generation of physicians merits careful consideration.

"Because they," Dr. Gertenbach declared in referring to the physicians of past generations, "were indifferent to the trend of the times, when it was within their power to change it, do we intend to sit back and adopt the same attitude or are we willing to tackle the problem of today?

"It seems to me that we of the young generation should have as much to do with the solution of present day problems as they,—yes, perhaps even more,—for any policies now adopted will prove themselves either feasible or not during our lifetime.

"We are anxious to do our bit, but sit back and wait for the opportunity to present itself, whereas it is constantly before us. Without concerted effort, without cooperation among ourselves, we will let things shape themselves just as they have until suddenly we awaken to find that our field of medicine has been taken from us to be usurped by someone with no knowledge of medicine.

"Are we going to exert an influence in an adjustment of medical problems? Certainly not as individuals,—because our voices will be drowned out by others. Even younger medical men are more serious and more conservative than men in other

fields, and the trying period which we are going through makes us still more level-headed. Collectively we can make ourselves heard.

"Utopianism is not one of our attributes and no one of us can suggest a remedy for the ills in our field, but by study and suggestions as well as being constantly alert to subtle changes we can arrive nearer to a satisfactory solution."

How many Ohio physicians who have been out of medical school but a few years are doing some of the things to which Dr. Gertenbach refers? How many county medical societies are giving its younger members an opportunity to take an active part in its organized activities and are willing to give serious consideration to the suggestions and opinions expressed by some of the younger men?

The future of medicine and medical organization rests on the shoulders of the young physicians. How well they will carry on depends largely on the inspiration and opportunities given them now

Organized activities builded upon the experience and mature judgment of the veterans of medicine and the energy and aspirations of the younger practitioners will play a vital part in the preservation of the ideals of medicine and in solving many of the present-day problems.

CONTROLLING NARCOTIC DRUGS

On March 31 the United States Senate ratified the international treaty for limiting the manufacture of narcotic drugs. The treaty was the result of an international conference held at Geneva in 1931. The treaty should be far reaching in its effect on preventing the smuggling of contraband drugs into this and other countries. The treaty does not weaken or relax existing American measures for the control of the legal use of these drugs, or those for the suppression of their abuses. The treaty deals with two phases: the limitation of the manufacture of narcotic drugs, and the strengthening of the measures for their international control and distribution.—*Jour. A. M. A.*, April 16, 1932, p. 1379.

VERMONT MEETING

The one hundred and nineteenth annual meeting of the Vermont State Medical Society will be held at the College of Medicine, University of Vermont, Burlington, on October 6 and 7, 1932. The Vermont Society was formed in 1794 and has held continuous annual meetings since that date.

EDUCATING DOCTORS' WIVES

Some months ago the California Auxiliary conducted a prize essay contest on the subject, "Educating a Doctor's Wife." First prize was awarded to Mrs. Emmet A. Pearson, of Los Angeles. We publish a portion of Mrs. Pearson's essay herewith because it makes interesting and entertaining reading to those who have "been through the mill." And now the essay:

"Doctors' wives are assuredly made and not born, for it would be asking too much even of eugenics to produce an individual with the required set of unique inhibitions and reactions. Granted then that she is to be made, let us look into the educative processes that are to do the making. It might be well first to inquire as to when the education should begin, pre or postmatrimonially, and lest there be any controversy on the subject, we shall consider as decisive the answer made by an eminent member of the medical profession when approached on this very subject. Said he, 'You'd better not educate them too much beforehand or they'll never marry doctors!'

"Thus we would suggest an institute for doctors' wives, conducted as part of the educational program of the Woman's Auxiliaries. Membership on the teaching staff may be made honorary or punitive, as seems best in each auxiliary. Entrance requirements need include no evidence of previous folly save the statement that the applicant has married a duly licensed M. D. The fundamental courses to be required may be divided roughly into arts and sciences. Mathematics as such need have no place because the application of even simple arithmetic to a doctor's income is discouraging, not to say impossible.

The *sine qua non* of the whole course should be the study of the art of discreet speech. This should be extensive and intensive, and must give instruction as to how to cope with the following typical questions:

1. 'What sort of an operation did Mrs. Dash have?'
2. 'What should be done for infantile paralysis?'
3. 'Does Mrs. Blank's little boy have anything catching?'
4. 'What does your husband charge?'

"There should be illustrative material with specimens from life, and these should include: (a) the doctor's wife who relates the errors made by other men who have dealt with her husband's patients; and (b) the chatty one who mentions her hus-

band's patients by name and ailment, with treatment outlined.

"The other art course we suggest as essential would be the art of medical reading and pronunciation. All good doctors' wives should be able to read professional treatises with a look of comprehension, even of enjoyment. This may take some practice. Triumph and reward will come, however, with the ability to see nonchalantly an esoteric word like 'gastroenterostomy'!

"The required science courses would also be two in number—phonology and relativity. By the former we mean instruction in the science of dealing with that blank imp so entrenched in the physician's household—the telephone. The doctor's wife must learn when to address it just politely, when cordially, when firmly and crisply. She must know the proper occasions for replying, 'No. May I take a message for him?' and 'I'll get in touch with him,' and, 'The doctor is out and can not be reached for hours!'

"Relativity, as one might expect, would be an elusive, intricate course. It would deal primarily with time, although space and distance would often be involved. For instance, the course should train the doctor's wife to estimate instantly the relationship between the time set for any social engagement and the relative number of minutes or hours due to elapse before the appearance of any given doctor. She must learn to judge from the standpoint of hostess, when she will have a number of doctors to consider, as well as from the standpoint of guest, when it is her responsibility to produce her own doctor at the appointed place, if possible before the hostess' patience has vanished entirely.

"Finally, we would suggest that there be no degrees granted. If ever a select auxiliary committee perceives that any doctor's wife has forgotten what she learned, she should be returned for further instruction. Generally speaking, the course will take a lifetime anyway."

TUBERCULOSIS MEETING

Reports of the eleventh annual meeting of the West Virginia Tuberculosis and Health Association at Elkins on September 6 and 7 indicate that the session was a distinct success. Dr. O. F. Covert, president, presided at the sessions. Speakers included Dr. J. Arthur Myers of the University of Minnesota; Dr. W. T. Henshaw, State Health Commissioner; Dr. George F. Evans, Hopemont; Dr. A. E. Russell of the U. S. Public Health Service, and others.

MONTHLY MORBIDITY REPORT FOR AUG., 1932

	Influenza	Poliomyelitis	Diphtheria	Scarlet Fever	Tuberculosis (All Forms)	Typhoid Fever
Barbour	..	..	1	..	1	2
Berkeley	..	..	2	..	..	4
Boone	..	2	5	..	..	5
Braxton	..	..	6	..	..	4
Brooke	..	..	7	1	..	1
Cabell	..	..	2	6	2	6
Calhoun	..	..	1	..	..	4
Clay	..	..	..	..	..	13
Doddridge	16	..	..	1	..	2
Fayette	50	1	2	..	..	18
Gilmer	..	..	..	..	..	9
Grant	..	..	..	..	..	3
Greenbrier	..	..	1	..	..	..
Hampshire	..	..	..	1	..	1
Hancock	..	..	1	..	3	..
Hardy	..	..	..	1	..	1
Harrison	..	..	3	6	..	8
Jefferson	..	..	2	2	..	1
Kanawha	1	..	9	7	5	36
Lewis	..	..	..	..	..	4
Lincoln	..	..	..	..	1	6
Logan	..	..	7	2	..	22
Marion	..	..	..	3	3	3
Marshall	..	1	..	1	..	2
Mason	..	..	..	1	..	..
Mercer	3	..	..	6	..	6
Mineral	..	..	..	8	4	7
Mingo	..	..	1	..	..	4
Monongalia	..	..	1	..	..	10
Monroe	..	..	..	..	..	3
Morgan	..	..	2	..	..	1
Nicholas	..	1	1	..	..	2
Ohio	..	..	3	..	2	2
Pocahontas	..	1	..	..	1	4
Preston	..	..	1	1	..	18
Putnam	..	..	..	..	..	3
Raleigh	..	4	6	1	..	8
Randolph	..	..	..	..	..	4
Roane	..	..	3	1	..	4
Summers	..	..	1	..	..	3
Upshur	..	..	..	2	..	6
Wayne	..	..	2	4	..	8
Webster	..	..	..	..	..	3
Wetzel	..	..	..	..	..	6
Wirt	..	..	..	..	..	2
Wood	..	..	6	3	2	8
Wyoming	..	..	1	1	..	10
Totals	70	10	77	59	24	277

The West Virginia Medical Journal

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[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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HEART DISEASE IN WEST VIRGINIA *

By R. J. CONDRY, M.D.
Elkins, W. Va.

THE prominence of organic heart disease as a cause of death in the United States in the past decade renders the prevention of these diseases an outstanding problem in preventive medicine today. Very little can be accomplished in the field of prophylaxis, however, unless there is a thorough understanding of the etiological factors responsible for the disease group. Heart disease may be very complicated. There are not only many different causes of heart affections but two or more of these separate causes may occasion trouble in the same heart simultaneously and in different and even inconstant degrees. For this reason the most effective method of study of these diseases is by establishing precise systems of nomenclature. This enables the worker in different localities to understand, discuss, and study each problem from a common standpoint. Such a system(1) has been worked out by a committee of cardiac clinics under the direction of the American Heart Association. While this criteria may have to be changed from time to time, the work furnishes a sound basis for future organized study of heart maladies. In this system, emphasis is placed on a study of the cardiac patient from four angles; namely, the etiological factors responsible for the disease, the anatomical damage, physiological disturbances, and finally the functional capacity of the damaged heart.

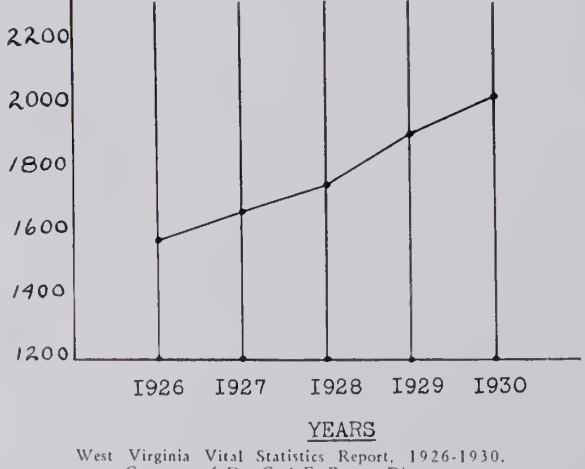
Heretofore emphasis has been on the structural defects of the heart and little or no attention has been given to etiology, physiological disturbances and functional capacity. There are three very important reasons why the cause of the heart damage should be determined; namely, treatment, prognosis, and prevention. A diagnosis of aortic valvular disease is far less important than it is to know whether this damage is the result of rheumatic infection or of syphilis. The treatment, prognosis, and prevention are quite different. The three most common causes of auricular fibrillation are mitral stenosis, thyrotoxicosis, and arteriosclerosis. It is essential to determine which one is the responsible factor if a correct prognosis is to be made. Likewise congestive heart failure is much more serious, as a rule, following cardiac infarction than when it occurs as a

* Oration on Medicine delivered before the West Virginia State Medical Association at Parkersburg on June 22, 1932.

result of chronic mitral stenosis. The anatomical defects of the heart have received sufficient attention in the past and it is not necessary to deal with them here. The importance of a physiological classification can not be over-emphasized. The patient with an irregular pulse is not helped much by a diagnosis of "irregular heart." It is not essential to determine whether the irregularity is a simple premature beat, sinus arrhythmia, auricular fibrillation or a heart block? The functional capacity of the damaged heart must be determined if the cardiac patient is to receive proper guidance and after care. Patients with organic heart disease improperly treated and managed impose a tremendous economic burden on a community. For this reason the physician must be ready and capable to determine the amount of work each patient can do and he must be able to advise and assist in the selection of suitable occupations for persons handicapped by permanent heart defects. All persons with organic heart disease need not be permanent invalids living in fear of sudden death because the physician has not studied the problem thoroughly, is unfamiliar with present day cardiology and fails to clarify the situation to the patient.

TABLE 1

TOTAL DEATHS FROM HEART DISEASE IN WEST VIRGINIA, 1926-1930

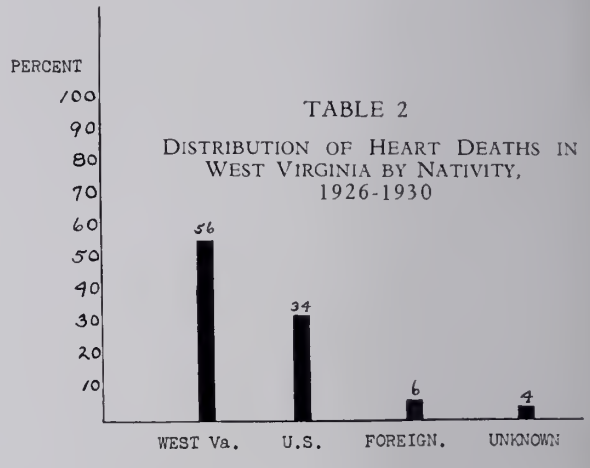


West Virginia Vital Statistics Report, 1926-1930. Courtesy of Dr. Carl F. Raver, Director.

The purpose of this paper is to determine if possible the prevalance of heart disease in West Virginia and whether or not these diseases are being given adequate attention as far as study and control measures are concerned. The natural approach to this subject is through the reports of the mortality statistics of the state. The value of mortality statistics has been questioned by some and while the inaccuracy of individual death certificates is evident this basis of study remains the principal source of information as to the incidence of any group of diseases. A review of the vital statistics report of a five-year period from 1926 to 1930, inclusive, discloses the following interesting facts regarding deaths from heart disease in West Virginia during that period.

TABLE 2

DISTRIBUTION OF HEART DEATHS IN WEST VIRGINIA BY NATIVITY, 1926-1930



West Virginia Vital Statistics Report, 1926-1930. Courtesy of Dr. Carl F. Raver, Director.

The total number of deaths from heart disease in West Virginia from 1926 to 1930 is shown in Table 1. There has been an increasing death rate from heart diseases in West Virginia during the past five years In 1930 there were over 2,000 deaths recorded as due to heart conditions.

Table 2 shows the distribution of these deaths according to nativity. Fifty-six per cent of the deaths occurred in native West Virginians and only six per cent were recorded in the foreign born. The increased rate can not be blamed on the influx of foreign industrial workers.

Table 3 shows the distribution of deaths by sex and race. Ninety per cent of the deaths occurred in the white race and ten per cent

in the colored. This is to be expected because for the past twenty years the ratio of whites to colored in the general population of West Virginia has been ninety-three per cent white and six per cent colored. In the white race,

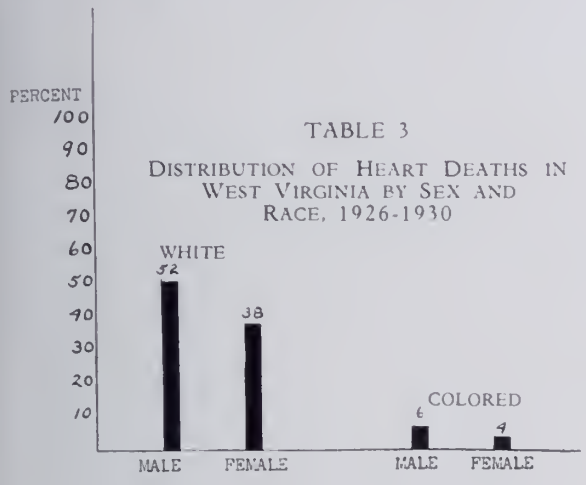


TABLE 3

DISTRIBUTION OF HEART DEATHS IN WEST VIRGINIA BY SEX AND RACE, 1926-1930

West Virginia Vital Statistics Report, 1926-1930. Courtesy of Dr. Carl F. Raver, Director.

fifty-two per cent of the deaths occurred in the male and thirty-eight per cent in the female.

Table 4 shows the distribution of deaths by age groups. The average for the five-year period was taken. Analyzed in another way

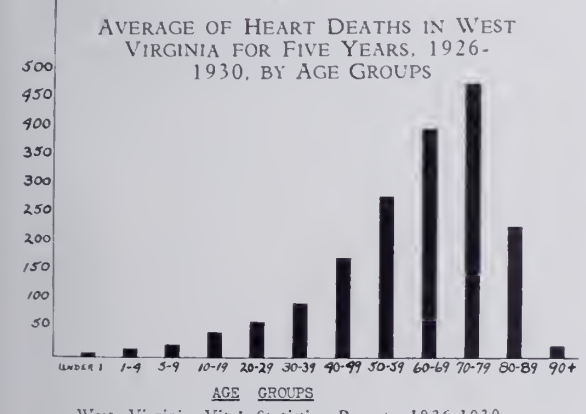


TABLE 4

AVERAGE OF HEART DEATHS IN WEST VIRGINIA FOR FIVE YEARS, 1926-1930, BY AGE GROUPS

West Virginia Vital Statistics Report, 1926-1930. Courtesy of Dr. Carl F. Raver, Director.

it shows that forty per cent of the deaths occurred after seventy years of age, forty-six per cent between the ages of forty and seventy, and fourteen per cent under forty years of age. For the Registration Area of the United States in 1928 approximate figures show that of deaths due to heart disease forty-one per cent occurred after seventy years fo age, fifty-one per cent between the ages forty and seventy, and eight per cent under forty years of age.

Table 5 shows the distribution of deaths from heart disease according to etiology. These causes are according to the International List of the Causes of Death. It is a

TABLE 5

ETIOLOGY OF HEART DEATHS IN WEST VIRGINIA, 1926-1930

Etiology	1926 Total	1926 %	1927 Total	1927 %
Pericarditis	11	0.6	9	0.5
Acute Endocarditis and Nyocarditis	146	8	169	10
Angina Pectoris	119	7	128	7
Other Diseases, including Chr. Valvular, Aortic Insuff., Myocarditis and Chr. Endocarditis				
Fatty Degeneration	1319	82	1354	82.5

Etiology	1928 Total	1928 %	1929 Total	1929 %
Pericarditis	12	0.6	11	0.5
Acute Endocarditis and Myocarditis	141	7	150	7
Angina Pectoris	124	6	130	6
Other Diseases, including Chr. Valvular, Aortic Insuff., Myocarditis and Chr. Endocarditis				
Fatty Degeneration	1504	86.4	1612	86

Note:—The Nomenclature used in Vital Statistics changed in 1930.

Etiology	1930 Total	1930 %
Pericarditis	22	1.8
Acute Endocarditis	152	7.5
Chronic Endocarditis	559	27
Myocardial Disease	1040	51
Angina Pectoris	250	12.7

West Virginia Vital Statistics Report, 1926-1930. Courtesy of Dr. Carl F. Raver, Director.

regrettable and unfortunate fact that as yet the statistician of vital statistics, following the International List of the Causes of Death, is unable from the data supplied him to give any information as to the actual etiology of the damage to the heart. It must be remembered in this regard, however, that to recognize the cause in statistics it must be stated by the physician executing the certificate, and as yet few certificates contain the statement of etiology of a cardiac death as it should be

recorded. The structural defect is recorded but the pathogenesis of this defect is not mentioned.

Since the notification of cases of heart disease is not requested by health authorities, for obvious reasons, the only source of information we have regarding the prevalence of these diseases is the records of institutions for the sick, health agencies, insurance companies and industries. In an effort to determine the prevalance of heart disease in the various hospitals of West Virginia a questionnaire was sent to each of the fifty-two general hospitals in the state. This questionnaire asked for the total number of patients admitted for a two-year period and the number of patients with organic heart disease in this group of admissions. So few of the hospitals responded that reliable deductions as to prevalence could not be made. However, the reports of those responding bring out some interesting facts.

TABLE 6

INCIDENCE OF ORGANIC HEART DISEASE IN WEST VIRGINIA HOSPITAL "A", 1929-1930

Total number of patients admitted to hospital	8266
Number of medical patients	1618
Number of cases of organic heart disease	123
Percentage of organic heart disease in all cases	1.4
Percentage of organic heart disease in medical cases	7.6

Classification of cases according to sex:

	Male	Female
Heart Cases	69	54
Percentage showing heart disease	56	44

TABLE 7

INCIDENCE OF ORGANIC HEART DISEASE IN WEST VIRGINIA HOSPITAL "B", 1929-1930

Total number of patients admitted to hospital	3328
Number of medical patients	675
Number of cases of organic heart disease	31
Percentage of organic heart disease in all cases	0.9
Percentage of organic heart disease in medical cases	4.5

Classification of cases according to sex:

	Male	Female
Heart cases	12	19
Percentage showing heart disease	38.7	61.3

TABLE 8

INCIDENCE OF ORGANIC HEART DISEASE

Total number of patients admitted to hospital	1707
Number of medical patients	638
Number of cases of organic heart disease	118
Percentage of organic heart disease in all cases	6.9
Percentage of organic heart disease in medical cases	18.5

Classification of cases according to sex: WHITE

	Male	Female
Medical Cases	300	338
Heart cases	49	69
Percentage showing heart disease	41.5	58.5

Percentage of organic heart disease in total males	16.3
Percentage of organic heart disease in total females	20.4

From the Golden Heart Clinic, Davis Memorial Hospital, Elkins, West Virginia, 1930 and 1931

Table 6 shows the incidence of organic heart disease in Hospital "A" of West Virginia. There was an incidence of 1.4 per cent organic disease in all patients admitted over a two-year period, and 7.6 per cent organic heart disease in the medical patients.

Table 7 shows the incidence of organic heart disease in Hospital "B" of West Virginia. There was an incidence of 0.9 per cent organic heart disease in all patients admitted over a two-year period, and 4.5 per cent organic heart disease in the medical patients.

Of the other hospitals responding to the questionnaire the incidence of organic heart disease in all patients admitted for a two-year period varied from 0.5 per cent to one per cent.

Table 8 shows the incidence of organic heart disease in the Davis Memorial Hospital for a two-year period. There was an incidence of 6.9 per cent organic heart disease in all patients admitted during this period and 18.5 per cent organic heart disease in the medical patients. These persons were all of the white race. The incidence of organic heart disease was a little higher in the female than in the male.

From various sources in the United States and Europe it is estimated that from three to seven per cent of all sickness cared for in general hospitals is due to heart disease. It seems from this that the hospitals of West Virginia responding to the questionnaire show a much lower incidence of heart disease than the average reported. This may mean that either these hospitals are not having referred to them the average number of patients with heart disease or there is a failure to recognize many patients with heart disease. Owing to the fact that the period of care of heart pa-

tients is longer than the average it is estimated that from nine to ten per cent of the beds occupied in general hospitals are used by heart patients. This is about what was found in the statistics of the Davis Memorial Hospital. It is likewise estimated that for every death from heart disease there are from nine to fourteen persons with organic heart disease needing attention medically. This means that in 1930 in West Virginia with deaths from heart disease totalling more than 2,000 there were between 18,000 and 28,000 persons with heart disease needing attention medically. Of the hospitals responding to the questionnaire the average number of heart patients in each hospital in 1930 was twenty to thirty. There are fifty general hospitals in the state, and this means that the hospitals of West Virginia had admitted only 1,000 to 1,500 patients with organic heart disease.

In the same questionaire referred to above the hospitals were asked to classify the heart patients according to etiology. Since the classifications were about the same in each instance only examples will be discussed to illustrate the disclosed facts.

Table 9 shows the etiological classification of heart patients in Hospital "A".

Table 10 shows the etiological classification of heart patients in Hospital "B".

It is apparent that in these hospitals there is no uniform system of nomenclature for patients with heart disease. The structural defects are given but the actual etiology is not mentioned except in one or two instances. If we are to institute any study and control measures for heart disease in West Virginia the first essential is to know what etiological factors are responsible for the greater number of instances of heart disease and concentrate preventive measures along this line. This means that every hospital and every physician should classify heart patients according to the accepted uniform nomenclature. Then and then only will we begin to realize just what the prevalence of heart disease is in West Virginia.

TABLE 9

FREQUENCY OF HEART DISEASE IN THE VARIOUS ETIOLOGICAL GROUPS IN WEST VIRGINIA HOSPITAL "A"

Type	No. of Cases	Per Cent	Male	Female
Aortic Regurgitation	3	2.4	3	0
Coronary Infarct	1	0.8	1	0
Endocarditis	8	6.5	5	3
Pericarditis	1	0.8	1	0
Arteriosclerosis	7	5.6	7	0
Aneurysm	2	1.6	2	0
Auricular Fibrillation	12	9.7	7	5
Mitral Stenosis	4	3.2	3	1
Cardiac Dilatation	4	3.2	4	0
Hypertension	19	15.6	10	9
Chr. Myocarditis	26	21.3	10	16
Angina Pectoris	4	3.2	2	2
Cardiac Decompensation	1	0.8	1	0
Hypertension and Arteriosclerosis	5	4.1	2	3
Hypertension and Myocarditis	5	4.1	3	2
Cardiac Hypertrophy	1	0.8	0	1
Mitral Regurgitation	2	1.6	0	2
Unclassified	18	14.7	8	10
Total	123	100.0	69	54

TABLE 10

FREQUENCY OF HEART DISEASE IN THE VARIOUS ETIOLOGICAL GROUPS IN WEST VIRGINIA HOSPITAL "B"

Type	No. of Cases	Per Cent	Male	Female
Myocarditis	12	38	4	8
Mitral Regurgitation	2	6.4	0	2
Pericarditis	2	6.4	1	1
Coronary Sclerosis	4	13.3	2	2
Mitral and Aortic Valvular	1	3.3	0	1
Cardiac Decompensation	2	6.4	1	1
Auricular Fibrillation	1	3.3	0	1
Cardiac Hypertrophy	1	3.3	1	0
Tachycardia	1	3.3	1	0
Valvular Heart Disease	2	6.4	0	2
Aneurysm	1	3.3	1	0
Heart Block Complete	1	3.3	0	1
Sub-Acute Bacterial Endoc.	1	3.3	1	0
Total	31	100.0	12	19

TABLE 11

FREQUENCY OF HEART DISEASE IN THE VARIOUS ETIOLOGICAL GROUPS

Type	No. of Cases	Per Cent	WHITE Male	WHITE Female
Rheumatic	28	23.7	10	18
Hypertensive	53	44.9	22	31
Arteriosclerosis	11	9.3	9	2
Thyrotoxic	7	5.9	1	6
Hypertension and Nephritis	6	5.8	2	4
Syphilitic	2	1.6	2	0
Congenital	1	0.8	0	1
Miscellaneous	10	8.0	3	7
Total	118	100.0	49	69

From the Golden Heart Clinic, Davis Memorial Hospital, Elkins, West Virginia, 1930 and 1931

Table 11 shows the etiological classification of the heart patients admitted to the Davis Memorial Hospital for a two-year period. The criteria for the diagnosis of the etiological types of heart disease as proposed by the American Heart Association were used with the following modifications. Only those patients were classified as hypertensive heart disease who presented a persistent elevation of both systolic and diastolic blood pressure associated with demonstrable enlargement of the heart and without any evidence of renal impairment. Six patients with elevation of blood pressure, enlargement of the heart, and with evidence of renal impairment were classified as hypertension and nephritis. In the arteriosclerotic group all patients exhibited definite arterial change, with cardiac enlargement, little or no elevation of blood pressure and with diminished cardiac reserve. In the Miscellaneous group, 2 have since been classified as Rheumatic and 3 Arteriosclerotic. Of these heart patients, 23.7 per cent were classified as rheumatic, 44.9 per cent as hypertensive, and 9.3 per cent as arteriosclerotic. If the six patients in the group of hypertension and nephritis are added to the hypertensive group, it is evident that hypertension accounts for fifty per cent of the heart disease as observed in the Davis Memorial Hospital for a two-year period. It is apparent from these findings that in the community of Elkins the three most important etiological factors responsible for heart disease are rheumatic infection, hypertension, and arteriosclerosis.

In an effort to determine the probable prevalence of organic heart disease in industrial workers around Elkins, 500 men in the coal industry were selected and examined. Only those of the white race were taken because of the few colored workers. All of these men have been doing hard manual labor for years. In this particular survey all the men were diggers and loaders of coal. Ninety per cent of the men were under sixty years of age and of these forty per cent were in the age group twenty to twenty-nine years. The same criteria for diagnosis were used in this study as outlined above. Each man suspected of having heart disease or with any suggestive symptoms or signs was brought to the heart clinic and there a routine study was done. This study included a complete examination, blood studies, renal function tests, roentgen-ray studies of the heart for size and an electrocardiogram. The results of the examination were as follow: Total men examined, 500; incidence of organic heart disease, 35 or seven per cent.

Of the men with organic heart disease, ten were under thirty years of age, and twenty-three were between thirty and sixty years of age. No attempt was made to classify the type of heart disease, but the most common etiological factors found were rheumatic infection, hypertension, and arteriosclerosis. There were two patients with recent cardiac infarction and one with beginning heart failure.

Summary and Conclusions.—1. Heart disease is the leading cause of death in West Virginia.

2. From 1926 to 1930, inclusive, there has been an increase in deaths from heart disease in West Virginia.

3. There is no suggestion as to the actual etiology of these deaths due to heart disease. The structural defects are given but the actual pathogenesis of these changes is not mentioned.

4. In 1930, according to estimated figures, there were between 18,000 and 28,000 persons with organic heart disease in West Virginia. The numbers receiving hospital care in this year were approximately 1,000 to 1,500.

5. Of the hospitals of West Virginia responding to a questionnaire it is apparent that there is no uniform system of nomenclature for recording the etiology of heart disease. Practically all records give the structural defects rather than the actual pathogenesis of these defects. This must be remedied if any progress is to be made in the study and control of heart disease in this state.

6. In the community of Elkins the three most common causes of heart disease are rheumatic infection, hypertension, and arteriosclerosis. Therefore, study and control measures should be directed toward the eradication of these three important etiological factors in this particular community.

7. Examination of 500 miners around Elkins showed an incidence of seven per cent of organic heart disease.

Recommendations.—1. That the State Medical Society sponsor the appointment of a Heart Committee of the State of West Virginia and that this committee is to become affiliated with the American Heart Association.

2. A state-wide educational program to physicians as well as to laymen regarding heart disease and its study and control.

3. Encourage the establishment of cardiac clinics throughout the state and insist on a better classification and a uniformity of nomenclature of heart diseases.

4. Studies of various communities for the incidence and actual etiology of heart disease in those localities. Then and then only will we know just what types of heart disease are more prevalent and against which to institute study and control measures first. Although the investigation of the causes of heart disease may well be carried out all over the world, it is most important for each community to determine just what etiological group is responsible for its particular heart problem and institute control measures accordingly. Meanwhile the individual physician may contribute to the progress either by concentrating his study on some etiological factor or factors, or in a routine way by recording as accurately as possible in every patient with heart findings, the causes, whether doubtful, unknown or clear. Gradually in this way will come a better realization of the problems which lie before the medical profession in this large and important field.

I wish to express my appreciation to Mrs. Sarah Golden, whose kindness and benevolence made possible the establishment of the Golden Heart Clinic, to the American Heart Association for permission to use the charts on diagnostic criteria, to Dr. I. C. Riggin for his helpful advice, to Dr. Carl F. Raver, director of the Bureau of Vital Statistics for the vital statistics reports, to Dr. Albert Hoge and St. Luke's Hospital and Dr. John E. Cannaday and the new Charleston General Hospital for their coöperation, to Mr. William Findley, Superintendent of the Simpson Creek Colliery Company, and to Dr. R. R. Sisson for their coöperation and aid in examining the men in industry, to Dr. B. I. Golden for his suggestions, and to Mr. E. L. Graff for his technical assistance.

From the Golden Heart Clinic,
Davis Memorial Hospital,
Elkins, W. Va.

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HARNESSING OF NATURE

"The public reads and hears about ultraviolet rays and bottled sunshine, about heat lamps and bakers, about artificial fever produced by radio waves, about muscle exercise and the reduction of fat by electric apparatus and about the removal of tonsils and small and large growths by electric knife and needle." Dr. Richard Kovacs explains in the November *Hygeia* how "Physical Forces in Healing" have been utilized by harnessing Nature's forces—heat, light and motion.

Unfortunately, there is a great deal of misrepresentation and actual faking going on. Drug stores, department stores and barber shops offer all kinds of wonderful lamps, rays, exercisers and what not. It is the old "patent medicine" game all over again. But if these physical forces are powerful enough to do good, they are powerful enough to do harm if used by clumsy hands or by rascals. Women deceived by advertisements promising removal of superfluous hair by x-rays have been disfigured for life; men going to a health studio without a doctor's advice have dropped dead from a weak heart.

PUBLIC HEALTH SERVICE, WITH SPECIAL REFERENCE TO MILK SANITATION *

By HUGH S. CUMMING., M.D., *Surgeon General*
United States Public Health Service
Washington, D. C.

As I HAVE observed progress in the field of public health in this country in recent years and have considered our problems of the present and future, I have become convinced that many of these problems will be solved satisfactorily only if the medical and public health professions coöperate properly upon their solution. This is true especially of the collection of data on mortality and morbidity—the foundation of vital statistics—general immunization against certain communicable diseases, and the provision of adequate medical care for the less fortunate group of our population; and it is no less true of the public health problems relating to milk.

If we are to make greater and more effective progress in the future, we must accept the conclusion that further success with our efforts will be dependent chiefly upon the extent to which the public is informed in matters relating to health. In most American communities the advice of the health officer is coming to be highly respected by the general population; but the intimate relationship of the private physician to the individual family also places him in the position of adviser on matters relating to health protection. Therefore, it is of compelling importance that the advice of these two teachers of public health and hygiene be not inconsistent. If the health officer advises one thing and the physician recommends another, the inevitable result is confusion in the mind of the public and a lowering of the prestige of both the health officer and the physician. It is my hope, therefore, that the remarks which follow may be helpful in promoting a properly coördinated attack by both agencies upon the vital public health problem involved in the safeguarding of milk, our most important food supply.

Public health service, in its relation to the sanitation of milk supplies, is of special importance because of the fact that milk, as one of our most widely used commodities, may, when exposed to infection, easily become the cause of a widespread outbreak of communicable disease. The source from which this valuable and essential food must come and the nature of handling necessarily involved in its production and distribution both contribute to the ever-present danger of infection. Moreover, once infected, milk may become particularly dangerous for the reason that it is an excellent culture medium for certain pathogenic organisms; under favorable circumstances the introduction of a comparatively insignificant number of such organisms may result, through multiplication, in a greatly intensified and much more widely distributed infection. During the past year state and city health authorities reported 34 outbreaks of milk-borne disease to the United States Public Health Service. These outbreaks totaled 1,398 cases. In addition, there were reported 1,380 cases of undulant fever, of which it is generally believed that approximately half were milk-borne. Furthermore, these figures do not include infection in man resulting from bovine tuberculosis. A report of the Committee on Prevention and Research of the International Society for Crippled Children, dated April, 1932, states that 21% of the cases of children under five years of age suffering from tuberculosis are due to the bovine type of organism, while between the ages of 5 and 16 the percentage rises to 26%.

Such reports are tremendously important, especially since milk sanitation has now been

* Read before the General Assembly, Parkersburg, June 22, 1932.

emphasized by health authorities for more than a generation. It must be quite evident that our milk sanitation work has failed in one or more important respects. I shall endeavor to point out some of the important defects which have contributed to this failure.

But let us first visualize the ideal milk supply as the Public Health Service conceives it. Such a milk supply would be protected by at least the following precautions:

1. Inspection to see that the milking process and all other phases of milk handling are conducted under conditions which make for cleanliness and safety. The latter term includes the sanitation of water supplies and excreta disposal at dairy farms and plants, and the bactericidal treatment of all equipment which comes in contact with milk; health examinations of the cattle; adequate and frequent health examinations of the employees; and cooling the milk to retard the growth of pathogenic organisms which may have been introduced despite the most painstaking precautions.

2. Heating the milk to devitalize any pathogens which may have eluded all efforts to prevent infection.

I think we can all agree that while there may be no such thing as the production of an absolutely safe milk, such a supply would be almost entirely free of danger so far as the transmission of infection might be concerned, and that if all milk were of that kind the incidence of milk-borne disease would be insignificant.

Why have we not achieved that ideal? There are at least two important reasons. One has to do with budgets and the other with an honest difference of opinion as to methods. The first affects many cities, especially at this time. Most cities do not appropriate sufficient money for an adequate milk sanitation staff, either because they can not, or because they do not realize the importance of public health service in its relation to prevention of milk-borne diseases.

The second reason is a matter in which members of the dairy industry, consumers, physicians, and health officers alike are concerned. As you know, there exists in many quarters honest difference of opinion as to whether or not all milk should be pasteurized. The vast majority of health authorities and many physicians, particularly those who live in large cities, believe that no milk is sufficiently safe unless it be pasteurized or boiled. Some of our pediatricians even recommend the pasteurization or boiling of certified milk. But there are many raw milk distributors, consumers, and some physicians and health authorities who are honestly convinced that heating milk significantly impairs its dietary value. They sincerely feel that as between the danger of milk-borne disease from raw milk and the dietary insufficiency of heated milk the balance is in favor of raw milk.

To repeat, then, the inadequacy of appropriations for general milk control, and an honest belief in some quarters that milk should not be pasteurized, constitute, in my opinion, the underlying reasons why we still have a serious amount of milk-borne disease in the United States.

What can we do to solve these serious problems? It seems to me that the solution must be through fact-finding and education, rather than through compulsion.

Compulsion would be impracticable even if it were desirable. We neither could nor should pass state or federal laws which would take milk control entirely out of the hands of the cities and counties, although such action might at once compel complete milk sanitation. There would be two fundamental faults in such a procedure. In the first place, in a democracy laws are effective only against small minorities. They can not be effectively enforced against a majority or even against a significant minority conviction. In the second place, our theory of government assumes that we shall promote the maximum practicable degree of local self-government. Therefore, we should discourage centralization of milk control by either state or federal law,

though we should work for uniformity of state and local regulations.

As I have said, we must solve this problem by education and investigation rather than by compulsion. We must marshal facts in a way which will convince cities that they should provide the necessary appropriations for milk control, and we must determine the real truth regarding the menace of raw milk and the effect of heating milk upon its food value.

The latter is a particularly important point. For merely casual study will convince practically everyone that heating milk is far more potent in preventing disease transmission than any other precaution or combination of other precautions. Hence if it can be satisfactorily proved that there is no significant dietary disadvantage in heating milk, I believe it would be accepted by nearly everyone that all milk should be pasteurized or boiled before it is consumed.

It is easy to see why heating is so effective as compared with other precautions. Neither sanitation of surroundings and equipment, nor health examinations of employees and animals, nor cooling, adequately protects milk against infection with the organisms of septic sore throat, scarlet fever, undulant fever, or typhoid fever. These measures will *reduce* these hazards and should be employed. Certainly pasteurization alone should not be advocated as a substitute for other precautions in the production of a clean, safe milk, but such precautions will not *adequately* insure against infection. This statement is true even if all methods of production and handling be applied with the utmost care.

On the other hand, heating milk by pasteurizing or boiling it, if carefully done, is *the only precaution* which will neutralize any defect or slip in applying all other precautions. I wish to reiterate here that I do not mean to imply that pasteurization is so perfect and fool-proof a device as to make all other precautions unnecessary. It is not. There is always an off-chance that it may not be properly applied. I am trying merely to make quite clear that the essential difference between heating and other precautions is that heating if properly done will protect, whereas none of the other precautions will do so surely, even if properly done.

In an effort to determine whether pasteurized milk has any dietary disadvantage, the Public Health Service decided last year to secure actual information in the field on a large number of children. A paper recently read before the Conference of State and Territorial Authorities gave the results of the studies that have been carried out up to the present time.

The height, weight, diet history, and health history of nearly 3,300 children of 2-6 years in the states of Alabama, Mississippi, Florida, Georgia, North Carolina, Kentucky, Texas, Missouri, Oregon, and Washington were studied.

Time will not permit my going into the details of these studies or into a lengthy analysis of the results. However, I may say that we believe it safely may be assumed from the data obtained that heated milk plus the average American supplementary diet produces the same weight and height in children as raw milk plus the average American supplementary diet. It was interesting to note, also, that parents of the children receiving heated milk reported fewer cases of certain communicable diseases than did the parents of children receiving raw milk.

The facts apparently disclosed by this preliminary study should be confirmed by an even more extensive survey, covering shorter and possibly even larger groups of children. If they should be confirmed I believe we can assume that the difference of opinion to which I referred earlier in this paper will no longer exist. I feel sure that under the stimulus of such research results practically every physician would be willing to support health officials in urging all milk consumers to take advantage of the brilliant discovery of Pasteur as to the lethal effect of heat upon pathogenic organisms. I believe that if the majority of physicians everywhere will support health authorities in securing adequate

milk control budgets and in urging milk consumers either to use pasteurized milk or to heat milk at home before it is consumed, we shall within a very few years have solved one of the important problems confronting the medical and health professions of America. If all physicians and all health officers were persistently to teach this one public health truth it would not be five years before practically all milk-borne disease would disappear. Such an outcome would be a striking example of the effectiveness of coöperative effort in public health between health officials and physicians.

In the opening paragraph of this paper I pointed out the need for coöperation between the practicing physician and the health department in the solution of certain public health problems with which we are confronted today. Before closing, I should like to touch briefly on this subject in a general way and to refer specifically to the question of "state medicine" which appears to have become an important topic for discussion by medical and public health groups throughout the country especially within the past two years.

I believe that most of the fear of "state medicine" which the practicing physician sees in the program of the health department of today, and the complaint on the part of some of our health officers of the lack of coöperation or hostility of the medical profession can be attributed largely to misunderstanding, for which failure of the health department to take the physician into its confidence and seek his advice and assistance is responsible. On the other hand, I am also convinced that the doctor who sees the forerunner of "state medicine" in the present day activities of the health department would discover much that may be of material personal benefit to him if he would but take the trouble to look more closely into the modern public health program and find out for himself what it may offer in return for his coöperation. I refer particularly to the results of educational activities of the health department, cases referred from schools and diagnostic clinics, and assistance that can be given to the medical profession in working out plans for medical care for the indigent and semi-indigent.

If there be a trend toward "state medicine" in this country today, I believe it is because of conditions over which the health department has no control. The economic situation with which we all are confronted has caused the public to devote serious thought to the costs of medical care for certain groups of our population and to wonder whether the burden, which indirectly falls upon the community as a whole in the end, may not be lightened through prevention of unnecessary illness. The individual in moderate circumstances who is unwilling to make himself an object of charity but who can not pay the price of adequate service is seeking some plan whereby the expense of medical attention may be lessened. It is my opinion, therefore, that any conflict which may arise in this country over the question of "state medicine" will be between the public and the medical profession rather than between the health department and the practicing physician; and it is my belief that if the doctor will seek the coöperation of the health officer and permit him to join in a movement to solve the problem, the health department can and will become the strongest ally of the medical profession in preventing the inauguration of unwise "state medicine" in the United States. If the physician will adjust himself to the new order of things and do his part in reducing the cost of medical care by practicing preventive medicine in the home, and if he will accept the aid of the health department in working out a plan whereby every individual may be placed under adequate medical advice and care, with just compensation to the doctor for his services, I believe that any need for "state medicine" can be averted.

In closing, let me say that the Public Health Service has no interest whatever in the promotion of "state medicine." Its policies and views are entirely in accord with that provision of our Constitution which reserved to the states themselves all powers

relating to protection of the public health within their several jurisdictions. The Public Health Service has no desire to maintain control over local health work, nor would it have any interest in any special legislation which might even indirectly establish such control. It *is* interested in promoting the development of adequate local health service, under the direction of full-time trained medical health officers, who work under the careful guidance of the state department of health and whose activities are carried on in cordial coöperation with the local medical profession.

The milk problem is only one, though a most important one, of the many factors involved in the task to which we of the medical profession have consecrated our lives, the prevention and cure of disease, the raising and maintaining in the highest state of efficiency and happiness of our fellow countrymen. It is, too, one of the most striking examples of the necessity for the participation of governments, local, state and federal, in what in its broadest sense, as Osler conceived it, is "medicine."

It is the province of the federal government with its resources of trained personnel and equipment to conduct and coördinate laboratory and field research into problems of national importance such as this, and then to diffuse the knowledge gained to the profession and to the health authorities of the several states, who then by regulation and education stimulate the local authorities in coöperation with the practicing profession to benefit their local public.

Discussion

DR. EDWIN CAMERON: I am talking from the the standpoint of a health officer. We who are charged with the enforcement of the U. S. Milk Ordinance in the various counties in which it is applied find that we have three groups that will harm or help us along on our way. The first group is the dairymen; second, the milk consuming public; the third, the physician.

The dairymen, of course, to give you everything, must be educated. He is not a bacteriologist and does not understand just why all these items of sanitation are placed in the ordinances, unless they are thoroughly explained to him. We who do this work know that there is nothing in the items of sanitation required by the ordinances that should not be there. There is a logical reason for every one of them. Most of the dairymen in our state have accredited herds—that is, tuberculosis-free herds. During the past, they have felt very proud of the fact that they have accredited herds. But there is always the difficulty of getting them to see eye to eye with the health officer in the yearly testing of their herds.

The public—those who consume the milk—are the ones for whom we are doing this work. However, it is very seldom that we are able to tell, especially in the outlying portions of our cities, just exactly whose milk or what grade of milk is being bought.

Finally, we come to the physicians. I know every physician is called upon a great many times during the course of the year to advise a mother as to what milk or what quality of milk she should use for her infant, and therein lies the opportunity of the physician to advocate that grade of milk which he honestly feels is the best for the child. Of course, those of us in public health work can only conscientiously advocate one kind of milk—that is, pasteurized milk. But we feel that it is better than any other means we can take to eliminate the possibility of infection through the milk supply.

The United States Public Health Service and the various state health departments have been trying through newspaper publicity and over the radio to disseminate what knowledge they have gained about milk for the past several years, and yet are far from having the public educated to the point where they will deliberately choose their milk supply. They will invariably take the cheapest; they will still do that regardless of its quality, or they may take the milk supply handled by the nearest corner store, regardless of the cap that the bottle wears. So the actual value of the enforcement of the standard milk ordinance lies in the education of the public, and the dairymen. The private physician has many opportunities to advise his patients regarding milk supplies during his daily practice.

DR. W. T. HENSHAW: West Virginia is an example where over a period of five years' time there has spread a fair degree of uniformity of policy with respect to milk control. The following agencies have been at work:

1. In 1927 the State Health Department set up the U. S. P. H. S. Standard Milk Ordinance as the official standard for the state.

2. For four years annual ratings have been made by milk specialists U. S. P. H. S., thus educational forces have been brought to play on state and city alike. This has been effective in stimulating competition.

3. West Virginia University has adopted in its teaching work the Standard Milk Code and through extension activities the dairy industry is being reached by the extension dairyman.

4. In tuberculosis eradication work the federal inspection men have adopted the same stand in the state agricultural department giving uniformity to work among the farmers.

5. Pasteurization plants have adopted the same principles as advocated in the code and are working on this basis in their inspection program.

West Virginia is bounded by Ohio, Pennsylvania, Maryland, Virginia, and Kentucky. The raising of the standard in West Virginia has reacted favorably upon (1) Ohio, that is, a strip of counties bordering Ohio River opposite West Virginia; upon Virginia, a strip of counties on the south-eastern border of the state; and upon Kentucky, several counties on the south-western border.

Ohio.—As the cities of Charleston, Huntington, and Logan enacted and carried out milk control regulations, two foci in Ohio were effected—Gallipolis and Athens sections, and the milksheds around these two milk plants. Effective work has been done by trained inspectors using U. S. P. H. S. standards and milk plants made to conform to standard requirements.

Virginia.—As the cities of Welch and Bluefield enacted the West Virginia standard, it became necessary for Virginia to line up both dairies and plants before milk could be labelled Grade A for sale in West Virginia cities. By using a trained milk inspector who also serves several West Virginia counties, the Virginia area now sends accepted milk into West Virginia.

Kentucky.—Since the states of Kentucky and West Virginia operate on standard ordinance basis, coöperation has been effective in the Williamson and Huntington areas.

All areas large and small in West Virginia where milk is produced and handled have been beneficially aided through the setting up of a state standard. Lewisburg, Beckley, and Ronceverte are examples of small milk plants located in milk producing areas have cleaned up and now are authorized to use Grade A pasteurized label. Such areas are under supervision of a trained inspector, records are kept in a standardized way, and bacteriological control is constant. Through the state engineer many other small towns have been stimulated to clean up their milk supplies, namely, Sistersville, Elkins, Welch, Pt. Pleasant, and Princeton.

Wheeling, the largest city in the state, has a complicated problem importing most of her milk from several hundred small producers in Ohio, Pennsylvania, and West Virginia, but the State Code on pasteurization plants is being effectively administered. How to get dairy conditions over the milkshed is difficult with limited inspection force, and how to grade fairly in absence of this data is a question.

Each of the following cities have had differing experiences which may be worthy of mention from the standpoint of administrative practice:

Huntington.—Here virtually no milk control existed when standard ordinance was enacted. Rapid progress was made as two trained women administered the work in place of a dishonest, incompetent veterinarian. Reasonably good conditions were established after two years work. Two state ratings showed constant improvement. After an election incompetent inspectors were again appointed but a state and federal survey showed up deficiencies and secured appointment of competent, honest inspectors, trained for their work and work is proceeding to a higher plane.

Charleston.—The Capital has made consistent steady progress since the state-federal coöperation. Dairies and plants have confidence in rating and grades and three new milk plants have been built in the past year. A more pronounced tendency to keep work out of influence of politics is evident.

Parkersburg.—In this city less proportionate improvements have been shown because of the influence of politics. Failure to select a qualified man and failure to announce grades honestly. The State Department will soon make 1932 survey and announce grades independently from the city unless changes are made to follow out ordinance more strictly.

Morgantown.—Here the reverse fo the Parkersburg situation is true. A trained, honest, impartial sanitary engineer with university training is in charge of the milk program. By coöperation with the producers and plants remarkable improvement has

been effected. Bacteriological work and control in coöperation with West Virginia State University and milk code used in student class work.

Martinsburg.—In this city we see the milk ordinance and inspection done almost wholly by state engineer and local county health officer, funds not being available for inspector. Two new plants have been built.

Logan.—Here a remarkable improvement has been made in milk quality. A trained sanitary engineer administered the work for about three years' time. A noteworthy fact is the widespread use of milk in schools throughout the mining camps, as an aid in nutrition work under supervision of full-time county health department.

Bluefield.—Slow, steady progress in milk supply improvement has been noted in Bluefield. The influence of the inspector for this area has been felt in four West Virginia counties and in several Virginia counties sending milk into West Virginia.

PATHOLOGICAL CURRENTS AND ASTHMA *

By O. H. BOBBITT, M.D
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SINCE development of the theory of pathological currents into a working hypothesis, it is found that what we know as disease, but which is more frequently only a symptom, as asthma, for example, is resolvable into two or more causes. Up to date, this malady has been resolved, according to sources of exciting current, into the following groups:

a. Single source of current—right nasal bloc.

b. Single source of current—left nasal bloc.

c. Double source of current—right and left nasal blocs.

d. Double source of current—right nasal, right illiac fossa bloc.

e. Source of current extra-nasal, and as yet not resolved.

Of these groups, a, b, and c are entirely controllable through the nose; d can be improved by subtracting the nasal element from it; but the element that is of extra-nasal origin is not reachable through the nose.

Asthma, in which the exciting current emanates from a nasal bloc, right or left, is usually a very simple proposition. In mid-attack, the nasal ganglion test is made, that is, one ganglion is cocainized at a time. If the first one does not relieve the asthma in five minutes, the other is cocainized. If it is still not relieved, then the source of current is extra nasal. But if it is relieved definitely and completely when the right ganglion is cocainized, then the proof is complete that the source of current is the right nasal bloc. And so with the left. Cocainizing the ganglion and arresting the attack serves a double purpose; it clarifies the diagnosis as to source of current, and at the same time it is a very valuable therapeutic procedure. For it frequently happens that a few cocainizations of the ganglion in cases of this kind are followed by a complete arrest of the disease. One case record will be given, as the others are mere duplications.

Mrs. G., an American woman, twenty-eight, developed asthma, which lasted off and on several years gradually getting worse. At length when she reported for treatment she was having an attack every night. The right ganglion was cocainized in mid-attack, and the attack completely arrested in three minutes. Two days later she returned, in accordance with instructions, reporting she had had only traces of it since the cocainization. It was cocainized again, and since that time she has had no trace of the disease. She was cocainized twice more and dismissed. That was more than a year ago and there has been no return. But there is a class of cases that do not terminate so happily. While the attack can be controlled by cocainizing the gang-

* Read before Central West Vrginia Medical Society at Webster Springs on July 12, 1932.

lion, it returns and can be again arrested, but it returns. Why the difference, I know not. The following illustrates this: B. L., a lad of ten years, was having asthma of three years' duration. It was found that cocainizing the right nasal ganglion gave complete relief. This was repeated several times when the asthma seemed to get well. But after a few weeks it returned. Again it was intercepted at the right ganglion, and again abated. This is the history over and over now for several months. The parents have been advised that injecting his right nasal ganglion with alcohol, which is a more permanent method of "turning off the switch," should result in complete recovery. This will be done in due time.

There is still a third type in this group. While the asthma is found to be emanating from one of the other nasal bloc, the proof of which is its interceptibility at the ganglion, yet one gets only temporary relief, the symptoms reappearing regularly as if it had never been intercepted. The following case will illustrate this:

Mrs. F. R. M., who has been seen before, at five years of age developed a cough like whooping cough. At the age of twenty asthma was super-imposed. At the age of forty she reported for treatment, with an intractible cough-asthma of a severe and persistent type, and a special susceptibility to head colds. It was found that cocainization of the right nasal ganglion relieved the asthma but not the cough. This was repeated for some time in conjunction with silver nitrate and gradually there was some relaxation of the asthmatic symptoms, but no real cessation. Later it was found that cocainization of the left ganglion relieved the cough. She thinks during this time the acute colds were less frequent. After a time she moved away, and treatment was left off, and soon all the symptoms returned. She at length again reported for treatment, and her tonsils were removed, but the result was disappointing.

At this time she was having asthma every night and almost every day, and the cough was persistent. The two ganglia were now injected, ten days apart, the asthma side first. From the evening of its injection, she had no more asthma, but the cough, as was expected, continued. Between the two injections, she developed one of her acute colds. It was strictly limited to the injected side. This, to me, is one of the most illuminating observations made. Ten days later, the cough side was injected, and the cough, like the asthma, ceased.

For the next twelve months she rarely had a trace of either cough or asthma, and what is more, she did not have an acute cold during this time. At the end of a year the symptoms began gradually to reappear, and by the end of fifteen months seemed to be fully reëstablished. This is an important point, as it shows how long the effects of the alcoholic injection lasted.

It has been eighteen months since the injection, and a few irregular cocainizations, during the last few months, have shown that the switches were on so the current again had free passage through the ganglia. So it was decided to inject the ganglia again. The right side (the asthma side) was injected late in the evening, but this did not control the asthma as it did before, as she had a light attack during the night accompanied by her cough which was not unexpected.

Was the injection faultily performed or was there another source of current? If the injection was properly done that eliminated the right bloc, and made the left bloc or extra-nasal regions responsible. Cocaining the right ganglion proved the injection faultless, and threw the responsibility upon either the left nasal bloc, or extra-nasal region.

The left nasal region was cocainized, and the asthma and cough both ceased. The relief was so perfect that one can definitely say the entire charge was coming from the left nasal bloc. Injection of the left nasal bloc has so far definitely relieved the asthma and cough.

This is a case of asthma made up in layers, one coming from the right nasal bloc, reinforced from the left. When the right bloc was intercepted there was enough current coming from the left bloc to cause asthmatic symptoms, but not a severe attack.

I have another case in which the current is resolvable into two elements, one coming from the right nasal bloc, the other from the right illiac fossa. Man, age 43, asthma since three years of age. At first it was intermittent, but with advancing years it became more severe, and more regular, and finally perennial.

The left nasal ganglion was cocainized first, but without relief. Then the right was cocainized with marked relief, but the asthma did not cease. From the first cocainization he was better, being able to rest on his back and sleep, something he had been denied for months.

The ganglia were now cocainized three times a week for a few weeks, and while he was on distinctly a higher level, he did not seem to improve any further.

We then decided we were dealing with an asthma whose exciting current was receiving reinforcement from two sources; one from the nasal bloc, and the other from the extra-nasal region.

He was referred to an internist, and it was found that he had a sagging transverse colon, and a tender spot at the angular juncture between the transverse and ascending colon.

If this be the source, it is evident that it requires surgical treatment. But he is not prepared for such intervention at this time, so a temporary expedient was resorted to, and if this condition be the cause of his extra-nasal current, then any mechanical support for the sagging colon should give at least partial relief.

So a belt was adjusted supporting the pelvic viscera, and the improvement was marked from the very hour. He still has a residue of asthma, but nothing like it was before. He is gaining weight and feeling himself a well man for the first time in years.

This interesting case was clearly one in which there was a current coming from the right nasal bloc, and one coming from the right illiac fossa. The two combined registering in the breathing mechanism, gave him a case of asthma that was of the knock-out type.

When the nasal element was subtracted, he got on a higher level, being able to sleep on his back. Supporting the pelvic viscera gave him further relief.

If the exciting current is coming from the extra-nasal region, as before stated, refer the case to an internist, as the rhinologist can do nothing that will confer any lasting benefit. In actual practice when asthma presents itself to the rhinologist, the first thing to do is to make the nasal ganglion test in mid-attack. If cocainizing one or both nasal ganglia relieves the attack completely, and if it does it repeatedly, then a few cocainizations will in some cases effect a permanent cure; in others, the ganglia will have to be injected with alcohol in order to get permanent relief. If on the other hand, cocainizing one ganglion in mid-attack gives partial but not complete relief, the appropriate measure will take off the layer coming from that side, and then leave the patient on a higher level. The next task is to find the remaining layer, or layers, and take them off. If the remaining one is in the opposite nasal bloc, then that can likewise be relieved through the nasal approach; but if not, then it is in the extra-nasal region, and must be sought for there.

PHYSICAL FORCES

Physical forces were always used in healing, for even the old Greeks and Romans had their sun baths and took some "setting up" exercises; massage is described in Chinese manuscripts antedating the Christian era by 3,000 years. Dr. Richard Kovacs elucidates methods of harnessing nature for physical benefit in "Physical Forces in Healing," a contribution to the November *Hygeia*.

SOME PROBLEMS IN THE MANAGEMENT OF GOITRE *

By W. CARL KAPPES, M.D., F.A.C.S.
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DESPITE our increasing knowledge of diseases of the thyroid gland there are still many problems which confront us as regards diagnosis, prognosis, and treatment of the dysfunctions of this all important organ. It is the object of this paper to present some of the more troublesome problems and suggestions as to the solution of the same. In this discussion we shall, in dealing with the various types of goitre, use the classification adopted by the American Association for the Study of Goitre, viz: (1) Diffuse Goitre, Toxic (exophthalmic) and Non-toxic (colloid); (2) Nodular Goitre, Toxic and Non-toxic.

Goitre, Diffuse, Non-toxic.—This type of goitre which is sometimes referred to as adolescent or colloid goitre presents, as a rule, few problems. In the majority of cases observation alone is sufficient. This observation should include re-assurance from the doctor that in all probability the goitre will disappear in a few years if left alone; also to caution the patient against becoming goitre-conscious, or developing a goitre complex. This may seem unimportant but there are, I am sure, many of you who have seen young girls become extremely nervous and apprehensive because some well-meaning friend had told them weird tales as to what might develop from their goitre. I am not at all sure that some of the early toxic diffuse cases (exophthalmic) are not a result of a nervous influence exerted upon these otherwise benign glands. Especially might this be true in a naturally high-strung child. The only other problem with regard to the non-toxic type is in those cases where the gland does not shrink normally but increases to such a degree as to become unsightly or produce pressure symptoms. In some instances small doses of Lugol's solution and equally small doses of thyroid extract with the patient under close observation (including basal rate determinations, blood pressure, and pulse rate) have relieved the symptoms as well as reduced the size of the gland. When reductions can not be effected in the above manner after a liberal trial, say four to six months, surgical interference is justifiable if one is careful not to remove too much tissue.

Goitre, Diffuse, Toxic.—I am confident that it is in the treating of this type of thyroid dysfunction that one is confronted with the most difficult problems; has to make use of the keenest type of judgment and meets with more disappointments than with any of the other types of goitre. To what are the symptoms of diffuse toxic goitre due? Are they due to a disturbed secretion of the thyroid gland per se (thyrogenic)? Or are they due to stimulating forces outside of the thyroid gland, with it as a medium only (neurogenic)? At the present time, unfortunately, these questions can not be answered. In my own mind, I am, more or less convinced that two types of diffuse toxic goitre exist. For example, given a frank case with exophthalmos, tachycardia (which is persistent and constant), nervousness, loss of weight, increased pulse pressure, elevated basal metabolic rate, et cetera, in a patient of average or low mentality, and with a fair economic status, radical thyroidectomy will in all probability relieve the patient of all symptoms and signs, and the basal rate returns to normal. On the other hand, we have a case with practically the same symptoms in a patient who is mentally more active and with a poor economic status. A thyroidectomy of even the radical type will not be as likely to cure as in the preceding type. Why should not the results be uniform in all cases where the same tech-

* Read before the Section on Surgery, West Virginia State Medical Association at Parkersburg, on June 23, 1932.

nique for removal of tissue is used? In a series of 1,000 cases following so-called "radical thyroidectomy" reported by Richter,[1] there were ten recurrences, and yet in his technique he leaves only a thin shell of thyroid tissue on the postero-lateral aspect of the trachea (between 2 and 3 grams). It is very difficult to see how this small remnant of tissue could attain sufficient size (with the major blood supply removed) to cause a recurrence of hyperthyroid symptoms. Along this same line we can not understand why, in some cases, ten per cent, the exophthalmos increases and yet the other clinical symptoms and signs of the disease, including the tachycardia, and elevated basal rate, are returned to normal following thyroidectomy.

The borderline cases of hyperthyroidism offer troublesome problems at times and I think these should be studied even more carefully than in the frank cases. For it is in this type that one has to determine whether or not the symptoms are thyrogenic or neurogenic. Thyroidectomy in the former gives pleasing results and in the latter very disappointing results.

The amount of thyroid tissue to be removed at operation is always difficult to decide. Lahey,[2] to my mind, has lessened this problem considerably, and he states that the amount of thyroid tissue to be removed is inversely proportional to the amount of involution which has taken place in the gland because of iodine administration pre-operatively. He also states that in doing sub-total thyroidectomies in children that considerable (relatively) thyroid tissue should be left behind even though there is a chance of recurrence of the hyperthyroid symptoms. A markedly hypothyroid state in children might and will produce definite untoward development and psychic disturbances. Strangely enough, relatively large amounts of tissue may be left in the aged, as there is already a lessened thyroid activity, and a too radical thyroidectomy with resultant hypothyroidism is detrimental to the best welfare of these patients.

When to operate and into how many stages the operation should be divided is another problem. Given a case of primary hyperthyroidism with duration of symptoms less than a year and no previous iodine administration, the problem is usually simple. For with adequate lugolization, ten to fourteen days, the pulse drops and remains more or less stable, the basal rate drops in proportion, the weight increases as does the patient's strength, and the morale is good. Given such an ideal case, one stage subtotal thyroidectomy can be safely done. In those cases, however, where the symptoms have been going on for years and iodine has been taken over a long period of time, the problem is more difficult. It seems to be the concensus of opinion that these patients should be taken off of iodine for a period of from three to six months, given plenty of rest and other hygenic measures, relugolized and operated upon in at least two stages. If this is not done, disappointing and disastrous results occur when least expected because the basal metabolic rate and pulse readings do not give an accurate index of the resistance in these patients.

Lahey[3] has recently called attention to the so-called apathetic thyroidism, laying stress on the fact that these patients are bad risks and should be done in at least two stages if good results are to be obtained.

Oft times we have patients for study who, during the course of the examination, are found to have a basal rate which is well above normal. The thyroid gland in a large number of the cases is not enlarged, but there are other signs and symptoms suggestive (only) of hyperthyroidism. These are the cases that tax our judgment considerably; but, I think, if we tide these patients along on sedatives, both real and fancied, they will make the diagnosis for us, viz: either some type of psychoneurosis or hyperthyroidism. Hertzler[4] and others warn against doing permiscuous surgery on these patients unless the diagnosis is definite.

Recurrences Following Thyroidectomy.—It seems to be the general opinion that re-operation is advisable in cases of recurrence. This, I think, should be modified to relate to those especially equipped, because of long experience, and technical skill, to do this type of work. I think disastrous results will follow when the occasional operator tries to re-operate for recurrent hyperthydoidism. He should probably rely on irradiation of the gland. Crile recommends adrenal denervation (bilateral) for these cases, but the results to date have not been altogether convincing.

Nodular Goitre.—Very frequently when the so-called colloid types of goitre have involuted, there still remains one or more nodules in the gland substance. These nodules are, in the majority of cases, colloid in type, or, as Hertzler[4] states, bosselations. Hinton[5] and his co-workers have treated a number of these cases in young individuals with small doses of Lugol's solution and thyroid extract and have reduced their size and in some cases caused their disappearance. This method is worthy of trial, especially if one can keep a careful check on the basal and pulse rates. When, however, these nodules persist, the problem then presents itself as to whether or not they should be removed surgically. Personally, we are of the opinion that nodular goitre in patients having reached adult life is surgical and for the following reasons:

1. It has been fairly well established that patients suffering with nodular goitre over a period of years have marked cardiac damage even though hyperthyroid symptoms are not present and no history of rheumatic heart disease can be obtained. Hepatic and renal damage may also be present. It would seem fairly logical to assume that the adenoma must have some toxic secretion which damages the myocradium; this can not be proven, however.

2. It has been shown that on an average of from fourteen to sixteen years after the formation of the nodular goitre, hyperthyroid symptoms develop. The hyperthyroid intoxication superimposed on an already damaged myocradium further increases the damage to the point of decompensation with its attendant hepatic and renal damage.

3. The damage to the myocardium in cases of nodular goitre with hyperthyroidism is usually more permanent than in the exophthalmic type.

4. Nodular goitres have a tendency to project substernally, causing deviation of the trachea, pressure on the large vessels in the mediastinum, et cetera. Of course, the operative risk is much higher in this type of case.

5. Nodular goitre undergoes malignant degeneration in about two and one-half per cent of all cases and the problem of treating the malignancies is very much as in malignancies elsewhere, very disappointing in a large number of cases.

6. The mortality rate following thyroidectomy for nodular goitre with hyperthyroidism is two or three times higher than in exophthalmic goitre, although, in the latter, the symptoms are apparently more severe.

We have of late operated upon a group of patients with nodular goitre in which the basal rate was normal or subnormal and yet the patients were more or less incapacitated because of nervousness, lassitude and moderate palpitation. The results have been uniformly good and in those cases with low basal rates the rates have approached more nearly normal. In some of them, moderate doses of thyroid extract after operation have relieved the symptoms entirely.

We have purposely left out of this discussion various points in the pre-operative and post-operative management of goitre patients as well as the technique of the operation; also problems relating to the giving of iodine to pregnant women with goitres, and other similar problems. To take up all the problems of goitre would be too time consuming.

Summarizing, we might say that: 1. Diffuse non-toxic goitre is in the majority of cases non-surgical but requires long continued

observation for evidences of untoward symptoms.

2. The end results in the diffuse toxic goitres are directly proportional to the correctness of the diagnosis.

3. Conservative (or stage) surgery in the diffuse toxic gotires of long standing and in those cases of apathetic thyroidism is of paramount importance if one is to keep the mortality rate low.

4. Nodular goitre in any patient past adult life is surgical if one is to prevent permanent cardiac damage, high mortality rates, malignancies and substernal projections.

Abstract of Discussion

DR. J. ROSS HUNTER, Charleston: Dr. Kappes' paper is very conservative.

In the matter of diagnosis in toxic goitre, I believe we are coming to depend more upon clinical examination than on basal metabolic readings. I think any man doing this work will understand just what I mean. There is a certain amount of annoyance to these patients having their readings taken, especially the first time or two, and readings are likely to be high. I think also that the handling of these machines requires the greatest care, so that errors do occur. Usually in toxic goitre the clinical picture is very definite. In borderline cases metabolism estimates are of value. In hypothyroidism basal metabolic readings are of special value.

In the matter of adenoma, I am entirely in accord with what Dr. Kappes has to say. This type of goitre is dangerous, on account of its tendency to produce cardiovascular changes and because of its insidious onset. Dr. Kappes has also spoken of the tendency of certain ademonatous thyroids to become malignant, and this also I believe is generally agreed upon. It would seem reasonable, therefore, to remove these ademonatous goitres as soon as practicable after their discovery.

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ENDOCARDITIS *

By E. R. LOGAN, M.D.
Omar, W. Va.

[EDITOR'S NOTE.—The following paper on Endocarditis was written by Dr. E. R. Logan, of Omar, and completed shortly before his death from endocraditis on January 13, 1932. The paper was read by Dr. Logan's associate, Dr. B. D. Smith, before the Logan County Medical Society on the evening of February 17, 1932.]

TO ATTEMPT to cover all the diseases of the heart in one brief paper, even in the most condensed form is, as you know, impossible; therefore, I will limit myself to endocarditis involving the aortic and mitral valves, by far the most common cause of death, and to the casual observer the one cause of death which is increasing by leaps and bounds, (I mean this literally, not as a pun, although leaps and bounds certainly do cause many deaths in heart cases). In my opinion, this increase is due to greater diagnostic acuity on the part of the average physician, to more frequent examinations of life insurance companies, and to the larger industrial enterprises.

Of course, myocardial degeneration is superimposed upon all valvular lesions sooner or later, if the patient does not die of emboli or thrombi before the stage of dilatation is reached.

It is peculiar, and so far as I have been able to find in the literature, an unexplained fact that of these two most common forms of valvular heart disease, mitral lesions are caused almost always by rheumatic or focal infections, while the aortic lesions are more frequently the result of our old enemy, syphilis. Stenosis of the mitral valve is much

* Read posthumously before the Logan County Medical Society on February 17, 1932.

more common, since regurgitation is seldom found except following dilatation of the left heart, as a result of some other lesion, causing the auriculo-ventricular orifices to become too large for the valve leaflets to cover.

In aortic lesions, the regurgitant murmurs are more commonly due to the well known tendency of syphilitic lesions to sclerose. The valve leaflets become deformed so that they can no longer completely close, and the blood regurgitates.

Prior to 1920, there was but little work of real value published on the heart, its action and diseases and a large portion of what was published can be discounted because of the lack of laboratory confirmation with roentgenography in its newer and improved forms, and the electrocardiograph. Since that time, much work has been done, good, bad, and indifferent, and as our profession has not changed since the days of Galen, some accept all the work because it was proven by that bugbear to most of us, electricity applied to treatment and diagnosis, while others accept none at all because they have always gotten by without doing any harm, even though they did no good.

It is in an attempt to place value where it belongs and to discount the ideas of those too enthusiastic that I ask you to accept this didactic paper. I have neither the time nor the inclination to go back over the literature and give credit to those who deserve it or place blame where it belongs, but since, for the past thirteen years I have had a mitral stenosis, and for the past five years a mitral regurgitation with auricular fibrillation in addition, you may be sure that what I have read and seen in the various clinics which I have attended, has been accepted with an open mind and no pre-conceived ideas.

In the final analysis we are all selfish and while we can tell our patients that so and so must be right because it was found true in a given number of cases, yet when we, ourselves, are the patients we naturally think of the many patients not included in a report and wonder what they would have shown.

It is my opinion that in making our diagnosis no elaborate equipment is needed; our old armamentarium, inspection, palpitation, percussion and ausculatation will give us more definite information on which to base our diagnosis than anything as yet brought out or suggested for us by the cardiologist.

I shall not waste time in going over the elementary findings on which diagnosis of heart lesions are based, but direct your attention to a few things which help us a great deal in certain cases.

Inspection.—Remember good daylight is best and should fall at an angle of about 45 degrees on the opposite side of the patient (the examiner always being on the patient's right). Have the patient change positions, (you may see things you did not think were there).

Palpitation.—Do not confine it to the ventral precordium; cover the whole chest, both anterior and posterior, using both the whole palmar surface of the hand and the finger tips for the localization of small points.

Percussion.—Absolute quiet is very essential. Cover the entire ventral chest. In percussing heart outlines remember that to the right of the sternum the heart lies directly beneath the costal cartilages and light percussion brings out the right border much more distinctly, while on the left a portion of the lung covers the heart especially if the heart is enlarged and this requires percussion to bring out the difference in resonance of deeply situated tissue. The heart should be outlined with the patient in two positions—dorsal-recumbent, and sitting.

Ausculatation.—First let me speak of the instrument used. There are only two types of stethescopes on the market which deserve even a word of comment, the Bowles and the Ford. Of these, the only criterion of choice is which we use the most. When we have become accustomed to a stethoscope, then that is the one of choice providing the ear tips fit and the rubber tubing is in good condition. These requirements are usually overlooked and yet are very important things in ausculat-

ation. In listening to the heart sounds, remember that a murmur without other signs of valvular lesions can not be considered sufficient evidence for a diagnosis. However, when present, it justifies further examinations. In locating the time of a mitral murmur in the cardiac cycle, place the tip of the middle finger over the apex and the diaphragm of the stethoscope on the flexed middle joint. In other lesions remember to take the pulse as near the heart as possible, the apex beat, if possible, or the impulse in the carotid artery. The farther away you get from the heart, the longer it takes the impulse to travel and the greater the margin of error. Remember a little exercise often brings out murmurs, which we would otherwise miss; also a heart in acute decompensation will often show no murmur. The pulse deficiency in a failing myocardium is of greatest value in prognosis when taken properly. The apex beat is taken by means of the stethoscope and another takes the radial pulse counting over the same period of time and for a full minute. Simple instructions of this kind may seem out of place, but I have seen case record after case record on which were recorded radial pulse in excess of number of apex beats; in other words, the blood stream picked up a few extra beats on the way from the heart to the wrist.

The newer aids in heart work, sterioskiagraphy, teleroentgenograms, and electrocardiograms are of great value in confirming our diagnosis and in telling us just what the condition of the heart muscle is and how it is reacting to the increased load placed upon it.

The stereoskiagraph gives us a three dimention picture of the heart helping us to rule out tumors of all kinds encroaching upon the heart area, adhesions between heart and pericardium and between pericardium and surrounding structures as well as pericardial effusions.

The teleroentgenogram, an x-ray made at a distance of at least six feet to insure all rays being parallel, gives us the exact size of the heart for future reference and for comparison with normal heart by dividing the transverse diameter of the heart shadow by the diameter of the chest we get the relative size which in the normal heart is from 40 to 45 per cent of the chest diameter.

The electrocardiogram is the photographic record of the changes in the amount of electricity generated by the contractions of the heart muscle. As the amount of this change is very, very small, it requires a very sensitive machine to record it, such as the string galvanometer as used in the old electrocardiograph. This still remains by far the most exact machine, but does not lend itself to transportation readily because of its delicate construction. Because of this same sensitiveness, it frequently needs adjustments which require a complete knowledge of its mechanics. Recently the Victor X-Ray Corporation has placed on the market an electrocardiograph which amplifies the changes in the amount of the electricity generated by contraction of heart muscle by use of the usual radio or vacuum tube. For the average cardiologist or internist, I believe this to be the better, although it is not yet accepted as accurate enough for research work.

The theory of the heart's action is very complicated and must always remain an unproved theory. However, in order to understand the electrocardiograph I will attempt an explanation as I understand it. The cardiac cycle begins in the auricular node situated in the interauricular septurm, from which impulses are carried by the auricular muscle and nerves, and auricular contraction begins. This impulse of the beginning of auricular systole causes in a normal heart a small wave on the tracing known as the P wave. The height, width, and shape of this wave tells us much about the condition of the auricular node and muscles.

The impulse now travels down the interventricular bundles of His to the interventricular node where the impulses cause ventricular systole. Because of the greater mass of the ventricles, the change of current at this point is greatest, and is indicated by

the curves Q R S at the beginning of the contraction, and the wave T at or near the end. The interval P Q represents the time consumed in passing the impulse from the auricular to the ventricular node and shows the state of conductivity of the bundles of His. If for any reason the resistance of this tract is increased, we have what is known as heart block, either partial or complete. In complete block the ventricles will contract independently, due to stimulation of the node by carbon dioxide in the blood. If, on the other hand, the resistance of the auricular node is decreased or the threshold of stimulation is lowered for any reason, the impulse that should go to the ventricles simply rotates around the node and causes auricular fibrillation or flutter, while the ventricles contract independently of the auricles and you have absolute arrhythmia. I do not wish to go into the various diseases which the electrocardiogram will indicate because, after the basic principle of the normal graph is understood, the reading is more a question of experience than knowledge; but, as this instrument is the only way we have of studying auricular activity, I wish to call your attention to the mounted graph which I have here, the wavy appearance of the heavy line between the Q R S waves. This indicates auricular fibrillation, while if there were the same number of these P waves between the Q R S waves, we would have an auricular flutter.

Treatment.—With one exception, all treatment is limited to rest for the heart muscle. Of course, this is excluding the emergency treatment of heart accidents and the use of such cardiac stimulants as camphor, suprarenal extract, intravenous injections of Ringer's solution, and the time-worn use of strychnine, any of which may whip up a heart and get it over a crisis providing the crisis is of short duration. I wish to mention the one exception which is an alkaloid of quinine or quinidine sulphate. For years we have known that cinchona given in large doses is a cardiac depressant and occasionally a death has resulted from its use. Since 1924 repeated experiments have shown this action to be due to the alkaloid quinidine and that such action is due to decreasing the threshold of stimulation of both the ventricular node and the heart muscle and increasing that of the auricular node. As you can see, this action would be of specific magnitude in auricular fibrillation and it is in this condition that it is used.

If the mitral orifice is large enough to let a sufficient amount of blood through when the auricles are contracting normally, by reverting the heart to normal rhythm, we produce a heart of about 40 per cent more efficiency. But if the stenosis is marked, the additional strain of the patient becoming ambulatory even in the slightest degree, throws the auricles back into fibrillation. Even so, it is my opinion that quinidine is well worth a trial in every case of auricular fibrillation, providing we have ready access to an electrocardiograph to check results. The failing heart, be it a valvular or myocardial lesion, demands rest. The heart rate must be brought to 60 and the only drug which will do this is digitalis. The preparation used is of but little difference so long as it is of known potency and standardization. Personally, I prefer the powdered leaf and have found this in tablet form active for oral use. Suitable ampoules are on the market for subcutaneous or intravenous use where quick digilatization is paramount but, except in rare instances, this method is unnecessary. If we believe in a drug and the patient needs it, as in digitalis, give it. The average dose of powdered digitalis leaf is one tablet of one and a half grains t.i.d., but if this is not enough increase it. I have given three such tablets every hour for three doses and three every two hours for three doses, to get a heart rate down to 60 p.m. without bad effects.

No deaths are reported from digitalis by mouth, as nausea and vomiting come on before a lethal dose can be given. Even in heart block from digitalis intravenously, the heart comes back if digitalis is discontinued.

Nearly all heart cases who die while taking digitalis, do so from too little and not from too much of the drug. If any one present has had a death from digitalis poisoning, or has heard or read a report of one, I would be glad to know it.

Neither is digitalis a drug for which a tolerance is acquired. While it is true we often have to increase the dosage, in my opinion this is due to giving too little of the drug, or to the patient's leading too active a life and wearing down the tonus of the heart muscle to a point where a larger dose of digitalis is required for the given effect, and not to tolerance.

In case of acute decompensation with passive congestion, ascites, and edema with orthopnea, absolute rest is indicated, both mental and physical. This is obtained by but two additional drugs, morphine and atropine, used in sufficient quantities to obtain the desired effect. In this condition give an absolutely salt-free diet with the limitation of fluid intake to eight ounces in 24 hours, including the water contained in the food eaten.

In conclusion, let me remind you that we not only can not cure organic heart lesions, but that in spite of all we can do, our patients are bound to grow worse as time progresses, and the sequence is as unvariable as the laws of nature ever are, and barring some cardiac accident in the form of an embolus, we can portray the history of every cardiac. All we can do is lengthen the span by a few short years, and let us not be led astray by the over enthusiastic, but rather let us continue with our tried and true digitalis, remembering to use enough to maintain physiological effect.

HYSTERECTOMY REPORT *

By ELDON B. TUCKER
Morgantown, W. Va.

THIS REPORT is made with the object of arousing more interest and care in deciding as to whom should have hysterectomy and when it should be performed. Supravaginal operation should have a very low mortality, especially if the patient is in a fair physical condition. A complete hysterectomy is one of the most serious operations performed. In my opinion these cases should be kept under observation for several days before operation, especially if there is a necessity for doing a total hysterectomy. Sufficient consultation should be had; even the anesthetist should be consulted. These operations should be performed by a surgeon and his regular assistants. There is no justification for having the family physician assist in such an operation to the exclusion of the regular assistants. The time element is important. The control of hemorrhage is also important. A hysterectomy may be a very simple operation; and, on the other hand, may be one of the most difficult operations to perform. It may be almost impossible to perform it properly; therefore, one should take no chances by lack of proper team work.

These eighty operations reported were performed at the Monongalia County Hospital at Morgantown, West Virginia, during the period from 1923 to March, 1932. I personally administered the anesthetic to seventy of these eighty cases. Forty-seven were given ether or gas and ether anesthetic. Of this number, ten died soon after the operation or within one year following the operation. Thirty-three were given a spinal anesthesia. Seventeen had spinocain. Fourteen had novocain crystals and two had a spinal anesthetic supplimented by gas. Of the thirty-three operated on under spinal anesthesia, three died. One died with a generalized peritonitis following a complete hysterectomy for

* Read before the staff of the Monongalia County Hospital on April 4, 1932.

fibriods. The second case died of shock two days following a complete hysterectomy for carcinoma of the uterus. The third death occurred in two weeks following a complete hysterectomy for a large fibroid. Death was sudden and, no doubt, due to an embolus. Seven of the ten deaths following a general anesthesia were in cases that had a complete hysterectomy.

In this report the removal of the uterus is considered the major part of the operation and no record is made of the number of tubes, ovaries, and appendeices removed.

Total number of cases	80
Number of cases with carcinoma	10
Died early	2
Died later	5
Recovered	3
Types of operation:	
Supra-cervical hysterectomy	2
Complete hysterectomy	8
Number of cases fibromyomata	61
Died early	5
Died later	1
Recovered	55
Types of operation:	
Supra-cervical hysterectomy	47
Complete hysterectomy	13
Vaginal hysterectomy	1

Other hysterectomy cases—not fibroids or cancer:

1. Pregnancy—3 or 4 months, operated by mistake in diagnosis.
2. Fibrosis of uterus—Previously x-rayed for fibroid, 2 or 3 months pregnant.
3. Fibrosis of uterus.
4. Prolapse of uterus.
5. Retained placenta.
6. Pregnancy and pulmonary tuberculosis.
7. Enlarged uterus following miscarriage.
8. Large lacerated cervix and in conjunction with double salpingo-ophorectomy.
9. Possible carcinoma with aecites and peritonitis. Not a carcinoma. Died one year later of cerebral hemorrhage. All of the rest recovered.

Anesthetic agents used:	
Ether	12
Gas (N_2O plus ethylene)	7
Gas and ether	28
Spinal:	
Spinocain	17
Novocain	14
Spinal and gas	2
Total operations	80
Total anesthetics:	
Gas and ether	47
Spinal	33

Gas and ether anesthesia:

	Carcinoma	Fibroid	Total Hysterectomy	Supra-cervical Hysterectomy
Died early		5		3
Died later	5		7	

Spinal anesthesia:

Died early	1	1		
Died later		1	3	

Operations performed by fifteen physicians, this the number of cases operated by each physician: 16, 11, 7, 5, 3, 1, 4, 1, 4, 2, 5, 4, 1, 12, and 4.

Complications causing death:

(1) Cellulitis of right breast following hypodermoclisis. Total hysterectomy for fibroid.

(1) Generalized peritonitis following total hysterectomy for fibroid.

(1) Embolus. Died suddenly, 14 days following total hysterectomy for fibroid.

(1) Shock from operation and anesthetic following total hysterectomy for carcinoma of uterus.

(1) Shock or shock and embolus following supra-cervical hysterectomy. Fibroid. Difficult to perform. Patient's bladder accidently opened 5 days previously under gas and ether anesthesia.

(1) Patient died suddenly 7 weeks after operation. Had apparently made an uneventful recovery following complete hysterectomy for a fibroid. Cause of death obscure.

(1) Shock from operation and anesthetic. Complete hysterectomy fibriod. Patient's age 64.

Six died later of carcinoma; 5 had complete hysterectomy.

Mortality percentage all types of cases, including carcinoma, 16.25 per cent; carcinoma immediate mortality, 20 per cent; carcinoma late mortality, 50 per cent; carcinoma, recovery, 30 per cent.

Mortality percentage for (both types of operation), fibromyomata, 9.9 per cent.

Percentage of recovery total—Number of operations for fibromyomata, 90.1 per cent.

Mortality percentage for all types of hysterectomies—fibromyomata and other causes, other than carcinoma, 8.57 per cent.

SYMPTOM COMPLEXES FROM NASAL ACCESSORY SINUSITIS *

By A. P. HUDGINS, M.D.
Hinton, W. Va.

WE USUALLY think of diseases of the nasal accessory sinuses as being manifested by two symptoms,—independently or associated, headache and nasal congestion. There are, however, many other symptoms which should cause one to be suspicious of sinusitis.

To be sure, local symptoms would more pointedly direct attention to disease of these cavities. Although the symptoms mentioned here may, of course, be due to a number of other disease conditions, the possibility of sinusitis as the etiological factor should be carefully borne in mind.

Congestion of the nasal mucosa with obstructions is one of the most common complaints when there is disease of the sinuses. This is most marked in the morning, as a rule; and clears up somewhat when the patient is up and about. This congestion is made worse when the mucosa is irritated by dust or other irritants.

A differential diagnosis must be made here ruling out allergy as the causative factor of nasal congestion. In allergy of extrinsic origin the mucosa is often pale and rather edematous in appearance.

Nasal discharge in some form is also an important symptom. This may be profuse or comparatively slight, causing only a slight crusty formation in the nose from hardening of this discharge on the mucosa.

The discharge may come anteriorly and be blown out or may drop postnasally and be cleared out of the throat. If the discharge comes anteriorly, the probability is that it is coming from the anterior group of sinuses, either the frontals, maxillaries or anterior groups of ethmoid cells. Patients with this complain of having to use a large number of handkerchiefs—half a dozen to a dozen a day.

If the discharge falls back in the throat and is cleared up, the origin is the posterior ethmoid cells, or the sphenoids. This postnasal dripping with the consequent clearing —or hawking, is a symptom frequently encountered and one which can often be corrected by properly directed treatment.

Unfortunately some patients do not realize that this is a purulent discharge in the postpharyngeal space and swallow it for a number of years.

Disturbances of smell, and consequently of taste, are often traceable to sinusitis. There may be parosmia or arosmia. Cacosmia is, when complained of, very characteristic of sinus suppuration. The small is seldom perceptible to the patient's friends and this helps to distinguish it from the small of the true ozena which can be perceived at some distance, although undetected by the patient.

Symptoms in the nasopharynx and pharynx inflammation, suppuration, abscess in the pharyngeal and palatine tonsils, of the pharynx and cellulitis of the neck may be due to infection of the sinuses.

Vague irritations of the throat, causing clearing or coughing, is a very significant sign and should lead the physician to a thorough examination of the nasal accessory sinuses.

The writer experienced a rather striking illustration of this a short time ago. A patient reported for examination complaining of "fulness" of lower part of throat with clearing of throat. After an examination, being convinced that the cause of the trouble was infection of the sinuses, I forthwith outlined treatment, etc., apparently without sufficiently explaining to the patient the reason. After the first treatment he complained that he came in for treatment of his throat, not his nose. The response to treatment was fortu-

* Original paper

nately rapid and he was convinced easily.

The Eyes.—Symptoms in the orbit or eye may be produced either directly (1) by obstruction, or infection of the lacrymal passage and consequent conjunctival affection, or, (2) by inflammatory extension producing orbital cellulitis, periostitis of the orbit, and retro-ocular phlegmon or reflexly, (3) by inducing chronic conjunctional blepharitis, phlyctenular keratitis, diminution of the field of vision, asthenopia, scotomata, photophobia, dilatation of pupil, blepharospasm, ptosis, and optic neuritis at times.

Brose, in his discussion, goes into considerable detail relative to the various manifestations of sinus suppuration in ocular pathology.

Simpson also gives case histories following through ocular pathology in its relation to sinusitis.

Tinnitus, vertigo, earache, eustachian catarrh, and purulent otitis media, may first attract attention to a sinusitis.

Cranium.—Headache faceache, hemicrania, and neuralgia may be symptoms of sinus infection. Faceache and neuralgia may present a certain periodicity, increasing for some hours after rising in the morning and often disappearing as the day goes on. This is explained by the accumulation of secretions of the night escaping from the cavity during the early waking hours.

Grunwall reports pain in 100% of acute cases of sinus inflammation and only 50% of chronic cases. It usually occurs at the same time each day, usually in the forenoon, and lasts several hours.

The pain in frontal sinusitis is usually limited to the glabella or supraorbital region, but may affect the whole frontal region. It is rarely occipital and is on the side of the inflammation. There is marked periodicity of the pain, usually from 10 A. M. to 2 P. M. or 4 P. M. when it ends suddenly.

The ethmoid usually causes dull pain between the eyes with a feeling of weight in the vertex.

Maxillary sinusitis causes pain in that area, but in 25% of the chronic cases it is supraorbital and is confined to the side of the lesion.

Sphenoid sinusitis can cause severe pain in the temples, post-aricular region, the middle ear with a feeling of weight and pressure in the vertex. The headache may be the only symptom of the disease. Both sphenoid and posterior ethmoid cells may cause pain in the occipital region.

Cutaneous Affections of the Face.—Eczema of the nostril and upper lip, erythema, abscesses of face and attacks of facial erysipelas are among the most common.

A skin condition which is not usually thought of in association with sinus involvement is urticaria. The writer had a case recently of this sort.

Larynx and Respiratory Tract.—Unexplained cough, acute and chronic laryngitis, chronic bronchorrhea, asthmatic attacks, and recurrent outbreaks of bronchopneumonia simulating tuberculosis have in various instances been found to be symptomatic of sinusitis.

An x-ray of the chest reveals enlarged peribroncheal glands and thickening along the bronchi that extends well out into lungs.

Colonel Rist and Sergent, of the French army, reported many cases primarily diagnosed as pulmonary tuberculosis to be non-tuberculous, the pulmonary lesion depending upon chronic nasal sinusitis, and Saylor found infected sinuses in all cases of pneumonia autopsied.

Sergent reported that incorrect diagnosis had been made in one-third of the supposedly tuberculous soldiers and that correction of the nasal disease, brought about cure of the bronchitis.

Lockard and Argall, in their paper, stress the fact that in one third of the cases of chronic, uncomplicated maxillary sinusitis, the patients are unaware of the condition, thus leaving a great many unspectsd sources of infection.

Recently, a young professional man reported for examination. His complaint was very much like that of incipient tuberculosis.

He had definite sinus involvement but was referred to an internist and a roentgenologist for examination and report. The history was of coughing, productive of some secretion, malaise, aching in the chest, slight afternoon temperature, loss of weight, symptoms coming on gradually in the past three months. The diagnosis was chronic bronchitis and they advised the clearing up of sinuses. This was done and the man is apparently healthy now.

Asthma and Infections of the Nasal Accessory Sinuses.—Asthmatic bronchitis, the type of asthma that is most frequently seen by the nose and throat specialist, the cough and the bronchitis are the prominent symptoms and the asthmatic attacks, secondary.

Infection of the accessory nasal sinuses and nasal obstruction due to polypi are commonly present in this group and relief of the asthmatic symptoms is dependent to a large extent on the cure of the sinus infection.

Bronchial asthma, on the other hand, is due to a spasm of the bronchioles, precipitated by exposure to a foreign protein, to which the individual is sensitive. The asthmatic attack is the prominent clinical symptom. The majority of asthmatics of this type state the onset of their symptoms are from early life. Skin tests demonstrate that the patient is sensitive to pollens, foods or some other substance. The recognition of the offending protein, desensitization and protection of the patient from further exposure, will result in marked improvement and often in complete cure.

Removal of the foci of infection alone will often cause a marked improvement or a complete cessation of the asthmatic attacks but recurrence is almost inevitable unless these local measures are undertaken as a part of a general therapeutic program.

Gottleib outlined four theories by which the symptom complex, known as asthma, may be produced with sinus disease as its etiological factor. (1) The mucosa of the pharynx being involved by post-nasal dripping from sinuses, with the mucosa of the trachea and bronchi being infected by continuity. (2) The absorption of toxins from the sinuses, manifesting itself as allergic phenomena. (3) Nasal obstruction secondary to congestion or polyps from sinuses necessitating mouth-breathing, hence from cold, dry air and infected material in the bronchi. (4) Irritation of the nasal ganglia causing reflex muscular spasm of the bronchi.

Chest symptoms in children are interesting and are rather characteristic in this group. Often a hacking cough and an evening elevation of temperature are present. An x-ray of the chest reveals enlarged peribronchial glands and thickening along the bronchi that extend well out into the lung. The cervical glands in the anterior and posterior triangle of the neck are palpably enlarged, which is an important sign of infection in the upper respiratory passages. Children of this type are often nervous and a certain number develop chorea.

Digestive Tract. — Gastric disturbances, obstinate vomiting and diarrhea may be traced to the descent of pus into the stomach.

For instance, a patient, age 62, male, was admitted to the hospital, complaining of vomiting. General examination was negative. The abdomen showed no masses and tenderness. X-ray of the stomach showed normal outline, etc. When this patient was submitted for nose and throat examination and a careful history, it was found that he had much post-nasal dripping and that this at times caused gagging in an effort to clear up his throat, and that his vomiting was limited to these times. The patient thought he had "stomach trouble" and was surprised when he was relieved by sinus treatment.

In children, cases of severe abdominal pain, even associated with leucocytosis or fever, has led to an operation for appendicitis when the real trouble was an acute sinus or throat infection.

General Symptoms.—Among the conditions which have in some instances been traced to a sinus empyema are those of general ill-health, loss of weight, feverish attacks simulating typhoid or malaria, insomania

or marked somnolence in the daytime. Various cerebral conditions are not infrequently traceable to it; such as irritability, loss of memory, languor, weariness, stupor, aprosexia, neurasthenia, melancholia, and weakened resistance to the action of alcohol and tobacco. Moral perversion, alcoholism, thieving, suicidal impulses and delusional insanity have on good evidence been traceable to paranasal infection.

Wood discusses sinus infection in that relation to the body as a whole, under the following headings:

(1) The Production of Secondary Infection.

(2) The Production of Toxemia.

(3) The Production of Constitutional Symptoms.

About a year ago, a man about forty-six years old, reported for examination, complaining of extreme nervousness and irritability. This had advanced to the point that the least noise or disturbance about the house, children playing, etc., was almost unberable. This he had noticed only about a year. Further examination and history revealed the following:

Patient had been in a nearby hospital, under the care of an excellent staff, for about eighteen months, during which time several operations had been performed. He had had a diagnosis of tuberculosis and had taken treatment. Due to his dizziness and blind spells, he had been referred to a neurologist. In spite of much earnest effort, he was showing slight, if any, improvement. It was explained to the patient that with such a history, little could be expected without a very complete report of previous findings and another examination of the chest. Basometabolic determination, Wassermann and other blood examinations were suggested, but proceeded with a nose and throat examination. Some haziness was found in his sinuses and they were treated. He would not agree to an operation but promised to return for treatments, which he did regularly, for about a month, reporting each time that he was improving. He was not seen then for about eight months. He then returned and reported that he had improved so much following the treatment that he became careless about his treatment. He felt the symptoms returning and was almost as bad as before. Since he has been on this treatment the second time, he has shown remarkable improvement again. Since he steadfastly resists operation, the treatment consists in local application, suction and irrigation. His nervousness, cough, chest pain, etc., have almost completely disappeared.

The explanation of this very unusual improvement is, of course, that instead of tuberculosis, this man had a bronchitis secondary to sinusitis, which closely simulated this condition, and that his dizziness, irritability, nervousness, etc., were also due to sinus suppuration.

Arthritis is reported by many observers to be due to sinus suppuration in many instances.

Gatewood states that he has well authenticated cases of arthritis in which the cause has definitely been traced to para-nasal infection.

Crowe, in his discussion of sinus infection, in Dean Lewis' *Practice of Surgery*, states: "In more than 50% of the patients with acute nephritis or an acute exacerbation of a chronic nephritis, a careful examination of the nasal passage will disclose a streptococcic infection of the ethmoids or antra. Sinus infections with staphylococci are said to be an important etiological factor in nephrosis in children."

A case report is cited in which repeated nasal examinations, transilluminations, suctions and antrum irrigations were negative. The patient was having recurrent attacks of nephritis. The washings from the irrigations were cultured, though they appeared clear. They were found to contain streptococcus hemolyticus. The radical operation on the sinus resulted in a clearing of the nephritis.

Nasal accessory sinusitis as a focal infection is presented in quite a different light in the very interesting paper by Anderson, appearing in the *Journal American Medical Association*, June, 1930.

The conclusion to be drawn from a discus-

sion of this sort is that one should logically and systematically consider the sinus as a possible etiological factor if any of the many symptom complexes which have been discussed, are present.

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PRESENT DAY HOSPITAL PROBLEMS *

By BENJ. I. GOLDEN, M.D., F.A.C.S.
Elkins, W. Va.

THE *Hospital—Its Power and Place in Medicine.*—I wish to take this opportunity to inject some personal thoughts. You may not agree with all or part of what I say, but I feel I speak concerning some important phases in the future not only of the hospital, but of all medicine. In this state alone, we have some twelve millions of dollars invested in hospitals. This may be termed "big business." Certainly a business of this size with an expenditure of more than four millions of dollars, and a pay roll of over two millions, employing two thousand persons, teaching one thousand students, and coming in contact with one-fourth of the population of the state annually, needs a strong organization with foresight if it is to succeed. Public utilities in this state are protected when their investments are a great deal less. We are not only unprotected, but we even lose a quarter of a million dollars annually from highway accidents alone, and no one seems to think it serious. Only a few counties in the state accept their obligation to the hospital to pay for their indigent sick—yet many maintain poor farms, tuberculosis santaria, and many other charitable institutions. There seems to be an unwritten law that we must minister to all who seek aid from us, beg from the public, and accept all the insults of the public press. This being the case, there must be something wrong with us. Why not admit it and seek correction?

The Hospital: Group and State Medicine.—The modern hospital, whether it admits it or not, is more and more becoming a modern clinic with all the ear-marks of group practice. The staff is closed, either by right of ownership, self-preservation, protection to the public, or politics. Whatever the cause, the staff maintains full right over all patients. The outside physician can do no more than refer his patient, and probably never see him again. For those who can afford it, every department in the hospital is brought into function, and the cost is as great as the "traffic will bear." For those who can not, there is either a neglect of duty or a financial burden placed on the hospital. The outpatient department is growing, and private practice, with rare exceptions, decreasing. It is right that the hospital should be the medical center. It has the equipment no private physician can afford, and a staff of technicians who relieve the scientists for more important duties. But when these clinics become the property of the hospital, which in turn is controlled by the public, then a serious men-

* Annual President's Address presented before the Hospital Association of West Virginia at Elkins, on September 1, 1932.

ace to private practice is taking place. State medicine, which is now just around the corner, is being thrust right upon us, with our own assistance.

Would it not be better to definitely design the group to care for all, not as individual specialists, but as part of an organization capable of combining efforts which will produce better results at lower costs to the individual, also at the same time giving a fair living to all connected with the group. In truth, this is one form of health insurance. It will give the public better care at lower rates. Because of the removal of the fee it will permit the individual physician to devote his whole mind to the scientific side of medicine, his livelihood being established. Group insurance and list practice could be handled in this way, and both patient and profession receive great benefits. And I am not so certain but that both of the above types of insurance do not have some real value when carried out in the proper spirit. This I do know. There would be a reduction in "made surgery" which, I regret to say, seems to be increasing. Whether due to lack of proper diagnosis, hasty diagnosis, fee splitting, or the thinning of the pocketbook—whatever the cause, it is a terrible stigma on the name of so noble a profession. We who partake of the art of Hippocrates should turn in shame. Will the young man suffer from this type of organization—does he in any other business? Can he not enter the group—of course not as a full fledged surgeon or internist, but as an apprentice—and replace the vacancies as they occur, or as his ability will create? At least he will not be forced into diverse channels to seek a living.

Shall Hospitals Use the Common Modes of Advertising Media for Giving the Public the Truth About Medical Progress?—I realize I approach a subject which contains a great deal of explosives. However, one has but to spend an evening in front of the radio to realize we are not doing our duty to the public whom we serve, and who trusts us. To hear the praises of the vitamine faddists, and the advantages of the prepared food manufacturers, makes one either marvel in the accomplishments of man, or the lack of interest God has suddenly shown towards His people by robbing them of the things, which prior to the radio they got from Mother Earth. Certainly no well thinking man can conceive he must consume certain pills and pastries to have his vital mechanism function —when through the ages it has functioned normally. In a survey of certain districts of Randolph County, West Virginia, by the extension department of the Agriculture Department of the West Virginia University, it was found that the farmer spent twenty-four dollars and seventy-five cents for doctors' fees: $8.63 for medication prescribed by the physician, and $6.75 for medication not prescribed. In other words, his patent medicine bills almost equal his bills for legitimate medicine. Why? If I am rightly informed this country leads the world in moneys expended for proprietary drugs—yet we boast of the greatest medical centers, and the best medical men. Certainly there is discrepancy somewhere. Are we fair in denying the public the truth, and allow others to materialize on our so called ethics? I question whether this is really ethics. I sometimes wonder if many do not use the term ethics to shield their own short-comings, and wield the threat of organization over the ones who would remove the mysticism from our profession

Schools of Nursing and the Nursing Question.—Hospital executives are continually hearing the complaint that the schools of nursing are not standardized or if they are, their standard is too low. The executive answers by stating that the nursing school costs too much now. Yet I am aware of only a few schools being voluntarily discontinued, where it is possible to keep them recognized. Because in many cases the school is not only cheaper than graduate nurses, but in some instances it reduces maid service. It is such an institution which will fight to the last ditch to keep from the public the truth about modern hospitalization. We have in

this state more than one thousand girls in nursing schools. Yet we are employing less than three hundred graduates in our hospitals. Is that fair? On the other hand, the nurses' associations have seen fit to protect all types of nurses by specifying a fee schedule. Does this not rob the individual of the ideals of progress? Should the hospital pay the same salary to the nurse who has had no special training as to the one who is most competent? This is not a criticism—but a statement of the plain facts, and it is because of these facts that I feel some hospitals are maintaining third and fourth rate schools.

The Modern Hospital and the High Cost of Hospitalization.—Luxury and unnecessary embellishments seem to have run away with common sense in modern hospitals today. Rooms have taken on the air of the "movie" drawing-room. Service too often means a fine bath, which the patient can not use; a bed-side telephone which more often than not interferes with proper convalescence; silver service, etc. Yet when the patient needs proper surroundings for convalescence, the physician most frequently prescribes some quiet place. All of this adds to the cost of maintenance, and not one iota to the results of the work. I am certain the mortality rate in these hospitals is as high or higher than the one which has no entrancing novelties, but full equipment properly used.

What the modern hospital needs more than anything else is a touch of human interest. This costs nothing, but certainly will do much to pacify a most diffident public. Why is it that institutions will boast of some new equipment, and let the relatives of a dying patient feel as though they had no right to show an emotional instinct? Let us call up a department store and fail to have some one answer immediately who is not conversant with all the details of our complaint; we promptly tell all our friends why we will not deal there. Let us fail to get proper service in a hotel and we warn all to keep away from that place. But let some call and ask how a patient is getting along, and we make him feel he has committed a crime by the inquiry. Let a patient complain and immediately every nurse on the floor is ready to ostracize him. Yet we pride ourselves on our calling.

Conclusion.—In conclusion I believe the hospital association is a most necessary adjunct to our future welfare; that we must recognize our shortcomings and face them frankly and honestly, or we may find our trusts have been taken from us. The nursing situation is one in which we play an important part, and at present are not meeting it fairly, though the nurses themselves are not giving the coöperation they might to its solution. We must recognize the necessities of the sick, permit the well the truisms of medical progress, and place the human heart in each hospital.

ACCIDENTS IN HOMES

Accidental deaths in homes numbered 29,000 in 1931, according to carefully compiled statistics. And fatal accidents are but a part of the whole story. Injuries in the home that fall short of causing death number more than 4 million a year.

Activities about the home in autumn are replete with opportunities for falls. The principal types of falls in the home are as follows: on stairs and steps, on floors and rugs, on walks and uneven ground, on ice, in bathtubs and showers, from ladders and scaffolds, and from chairs, tables and windows. Curtis Billings warns readers of the November *Hygeia* concerning "Autumn Accidents in the Home."

Ladders are used to repair the ravages of summer and to prepare for winter, as eaves are cleaned, drains mended, roofs patched, screens removed and storm windows put up. Inadequate substitutes for step ladders inside the house in fall cleaning are as precarious as the ladder for outside work can be when used incorrectly.

The second most deadly hazard to life in the American home is fire, which takes the life of 6,000 men, women and children annually. Children playing with matches, gasoline used for starting stoves, clothing ignited otherwise, gasoline used for starting a fire, and inflammable liquids or vapors are the five most important causes of fire in the home.

SOCIAL INSURANCE—COUNTER SUGGESTIONS

By EDWARD H. OCHSNER, M.D.

The medical and dental professions of this country are giving the American public the best all-round health services ever enjoyed by any nation and are on the whole serving the nation as well or better than any other group of men. These two professions have a very general and most intimate contact with the citizens of the nation. No other professions are in so favorable a position to exert so great an influence for good as are these two if they will but use their opportunity rightly and wisely. If they are to accomplish the greatest possible good they must make still closer contacts with and exert still greater influence upon the political, social, and ethical life of the nation. These professions as a whole and as individuals must strive unceasingly and untiringly, in the future as in the past, for still further improvements in their respective fields. If unhampered by lay bureaucratic supervision and control in the future as they have on the whole been in the past we have every assurance that they will proceed to new and greater achievements: if, on the contrary, unduly hampered, we have every reason to expect medical service to deteriorate and medical progress to cease as it has already done in those countries whose governments have interfered the most.

In order to maintain the high standard of medical service prevailing, the professions must insist that the governments of the various states maintain high standards of requirements for admission to the practice of the professions. In order to accomplish this, continued education of the public in this regard is necessary.

The organized professions through their proper local organizations must see to it that all undesirables are weeded out and that the individual members render efficient service for adequate and yet reasonable fees. The professional man who makes unreasonable exhorbitant charges for his services is even a greater menace to private practice than is he who charges too little. The former is the one to blame for most of the antagonism and resentment among the laity, while the latter because of his unfair competition makes it difficult for his colleagues to secure the necessary means for graduate work so essential to growth and progress.

Having presented to the attention of my readers through these articles the defects of social insurance as practiced at present in foreign countries and also shown the dangers of such a system if allowed to become fixed upon the American citizen, I offer as counter-suggestions that the government instead of wanting to take over new functions and new powers would do better were it to make every effort to perform acceptably the duties with which it now is entrusted. We of the medical and dental professions insist that the government give better medical services to its prisoners, delinquents, insane, paupers and government wards in general; that it give more serious attention to sanitation and hygiene, particularly to ventilation of public conveyances and places where large numbers of people congregate, and to the prevention of pollution of our sources of community water supply such as lakes and rivers.

The allied professions in conjunction with the government should give more serious attention to the teaching of personal hygiene in our schools, colleges, and universities. Our educational institutions should teach the rising generation the value of integrity, industry, thrift and frugality, and that there is no substitute for these, not even legislation. Teach them that trying to keep up with the Joneses is not necessarily a virtue and that the installment buying of luxuries and trying to keep ahead of the Browns is poor business. Teach them that to learn how to get one's money's worth and to acquire a competence are much more worth while. Teach them that trying to get something for nothing, particularly through gambling, whether it be crap-shooting, poker, or buying stocks on margin, is fundamentally dishonest and almost invariably leads to disaster.

Better provisions for safeguarding the savings of our workers should be made, and if there is no way of accomplishing this, there should be established a compulsory government insurance against

sickness whereby the individual worker pays for his own insurance; in other words, separate entirely medical services and cash benefits. The physician should under no circumstances be medical advisor and insurance adjuster as he is, in fact, in all systems of compulsory health insurance now in vogue.

Social insurance is man's latest attempt at finding a means whereby social justice may be attained. But like all panaceas so far advanced it is sure to make conditions worse rather than better. The first and most important thing to do is to secure honest and efficient government and this can not be accomplished until the general standard of honesty has greatly improved which is simply another way of saying that there is no substitute for character of the individual members which make up a nation.

Finally, devise means and methods whereby remuneration and reward shall be in direct proportion to time and energy legitimately expended and to the value of services rendered to society.

While the underlying purpose of social insurance is to secure the more equable distribution of wealth and to employ the weapon of taxation in order to secure the necessities and comforts of life to the poor at the expense of those with larger incomes, the system is of necessity a failure because it does not conform with the foregoing fundamental principles of justice but instead rewards the inefficient at the expense of the efficient; the lazy, shiftless and immoral at the expense of the industrious, thrifty and moral. While it is unquestionably true that certain individuals have been and are still receiving money for which they have not rendered an equivalent service to society, trebling and quadrupling and even ten-fold the number of these parasites does not correct the evil. The remedy must be much more fundamental.

This formula will require the best brains of the country for its practical application, but I am firmly convinced that it is the only formula that offers a practical solution to our social and economic ills not only of the allied professions but of society in general. If it is followed those members of society who are doing the world's work will have enough money to employ capable dentists and physicians of their own choice and will then be assured adequate health service.

CASE REPORTS

APPENDICITIS WITH PIN WORMS IN ETIOLOGICAL ROLE

By GENE M. HARSHA, M.D.
Sistersville, W. Va.

J. N., white female child, age 7. Family history, essentially negative; chief complaint, abdominal pain and diarrhea.

Present illness began on July 13, 1932, with a sudden onset of diarrhea and fever, accompanied by generalized abdominal pain. The diarrhea persisted in spite of home remedies, and was checked only after two days of supervised treatment.

During the extent of the diarrhea the pain remained generalized and cramp like. On the day following the cessation of the diarrhea, the pain became localized in the lower right quadrant and was accompanied by nausea and vomiting.

Past History.—Measles, whooping cough; otherwise negative.

When first seen on July 16, patient showed that there had been a recent loss of weight and was moderately dehydrated. Temperature, 103; pulse, 116; respiration, 24.

Examination of head and chest negative.

Abdomen—Moderately scaphoid, moderate generalized tenderness throughout abdomen. No evidence of worms.

Patient was put on routine measures to check diarrhea, and was not seen again until July 20, when she was presented because of persistent pain in the lower right quadrant and vomiting.

Upon examination at this time there was marked tenderness in the lower right quadrant, with involuntary muscle spasm and rebound tenderness. Upon rectal examination, no mass was palpated, but there was tenderness on pressure in right side.

Temperature, 99.8; pulse, 110; urinalysis, negative; W.B.C., 12,100.

Under ether anesthesia the abdomen was opened and the appendix removed in the usual manner, and abdomen closed without drainage.

In the abdomen there were slight fibrinous adhesions around the appendix, which appeared moderately inflamed. Following the completion of the operation, the appendix was opened, was moderately injected, and 10-12 live pin worms were found.

The patient made an uneventful postoperative recovery and two weeks from date of operation was given a course of santonin. No further pin worms were recovered.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

While tuberculosis has long been regarded as essentially a medical problem, surgery has made an outstanding place for itself in the treatment of this disease. Artificial penumothorax is widening in use, as its indications become more definite. Phrenico-exeresis and the cauterization of pleural adhesions to facilitate pneumothorax are established procedures. Thoracoplasty, or the extrapleural removal of portions of the ribs, still has its risks but is of undisputed value in well selected cases. Dunham and Asbury, in the *Journal of the American Medical Association*, July 30, 1932, discuss some general and economic considerations of thoracoplasty. Excerpts of this article of interest to the general practitioner follow:

THORACOPLASTY IN PULMONARY TUBERCULOSIS

Most of the literature on surgery in pulmonary tuberculosis has been written either by surgeons or by internists without mutual collaboration. Too frequently the surgeon does not have the "feel" of the case which the internist develops from his longer contact with the patient. The internist, on the other hand, may beguile himself into overconservative methods. The coöperative effort of internist and surgeon, based on their combined medical and surgical experience, is probably the best arrangement. It is regrettable that for such coöperative work facilities in personnel and equipment are lacking in most sanatoria as well as general hospitals.

Brown reported that, after nine years, eight of thirty-six patients on whom thoracoplasty had been performed were dead, while the remainder were either working or clinically well. These patients averaged less than a year of treatment after operation. Nine patients were followed who had been advised, but who had refused, operation. Six were dead, two were still under care, and one had recovered after five years of institutional treatment. Those who died averaged five years of care in a public sanatorium after the operation was refused. These figures are probably applicable to all institutions.

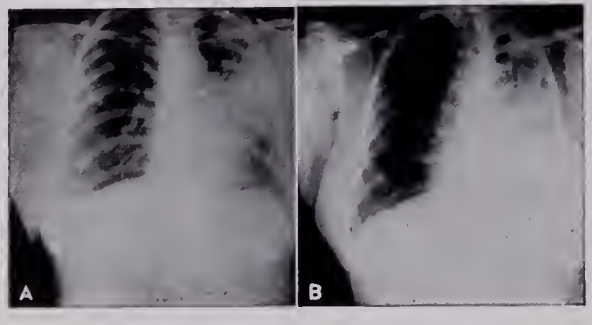
Economic Phases.—Certain tuberculosis patients live in a bed-ridden condition for years. They are a potential source of infection to all who come in contact with them. It is estimated that this group, though comprising a small percentage of the total number of patients, accounts for from twenty-five to fifty per cent of the patient-days of most sanatoria. A great saving would result were the sanatoria to be relieved of these chronic cases. Patients on whom a thoracoplasty should be done are mostly in this group. In the Hamilton County (Ohio) Tuberculosis Sanatorium patients are constantly examined by the internist and the attending chest surgeon, and those for whom surgery is indicated are removed to the Cincinnati General Hospital and returned after operation. The authors suggest a modification of this plan for all counties or sanatoria.

Selection of Patients.—Why and when are surgical measures valuable in pulmonary tuberculosis? Spontaneous cures of the disease have been effected for centuries. Indeed, the natural tendency of tuberculosis processes is toward healing. Rest in bed to reduce the depth and number of respirations and the circulatory activity, and to build up the general resistance is still our greatest aid in any case. Rest in bed constitutes the accepted treatment in most cases, either because the lesions are minimal or because both lungs are involved, contraindicating collapse therapy. If only one lung is actively involved, some form of collapse therapy should be considered, but it can not be used in all cases.

The simplest form of collapse therapy is artificial pneumothorax. Pleural adhesions may prevent the introduction of air; or this method may have to be

abandoned when adhesions can not be further stretched or when new adhesions form. The adhesions attached to the chest wall hold open cavities, which jeopardize the uninvolved lung of the patient and the safety of every one in contact with him. In certain cases, adhesions may be divided by the Jacobæus or open method, so that pneumothorax can be continued. If the adhesions are widespread and can not be cut, or if a pure tuberculous empyema occurs, thoracoplasty must be considered.

Why do we do thoracoplasty? Primarily to do away with positive sputum. The field for thoracoplasty is limited to cases of involvement of one lung which show evidence of cicatrization, but in which the cavities are not closing and persistently positive sputum is found. Toxicity, as evidenced by fever and a rapid pulse rate, should be absent. The general condition of the patient must be favorable, although arrested lesions in the opposite lung, as well as secondary lesions, are compatible with collapse therapy.



(A) Far advanced tuberculosis of the left lung. A persistently positive sputum was noted for three years. Phrenicectomy was insufficient, and pneumothorax impossible. There was a good cardiorespiratory capacity. (B) Appearance after thoracoplasty; sputum has since been negative continuously. Complete recovery occurred.

The way to determine whether the patient can stand a major operation is to observe his effort syndrome. Although contraindicated in the average case, for purposes of such observations, the patient is got out of bed daily, the time and amount of exercise is gradually increased, and a record is kept of the rise in pulse and respiratory rate and the amount of dyspnea. The length of time required for the return to normal is noted. Other methods of investigating the heart should not be neglected. Cyanosis is a positive contraindication to surgery. Thoracoplasty will affect the bedridden patient as would a 50 yard dash.

Comments on Technic.—Phrenico-exeresis is done either in conjunction with thoracoplasty or as an independent procedure. If the patient has a one-sided lesion and pleural adhesions which can not be cut, and if he is too toxic for more radical procedures, phrenico-exeresis is done. Owing to the fifteen to twenty-five per cent compression of the lung from raising the diaphragm and the lessened excursion of the lung, further surgery may not be needed if the sputum becomes negative. As a rule, some improvement occurs. If there is doubt as to the condition of the good lung, phrenico-exeresis serves as a test and a preparation for thoracoplasty, and can also be used after thoracoplasty when further collapse is needed to obtain negative sputum.

The preoperative preparation, the surgical technic and the post-operative care are lucidly described in the original article. Portions of at least ten ribs are removed subperiosteally as close to the transverse processes as possible in two stages. At the first stage the fifth to the eleventh ribs are removed. The second stage must not be unduly delayed since new bone forms quickly from the periosteum, but infection, such as ache or stitch abscesses, and wound drainage must be cleaned up before it is attempted. All possible speed and skill are desirable but gentle handling of the tissues is essential.

For two years the authors have been using acacia solution intravenously to combat the severe post-operative shock. This has the advantage of safety and convenience for it may be used on a moment's notice through a very small needle. The cost is trifling. An ingenious but simple "infusion radiator" for the purpose has been devised by a sister of the Good Samaritan Hospital.

"The only criterion of a successful thoracoplasty is a living patient with continuously negative sputum."

In one series of patients thirty-five per cent had continuously negative sputum beginning two weeks after the operation and all but two of the remainder had consistently negative sputum after a period from two to nine months. In another series forty per cent showed negative sputum at once after operation and forty per cent negative sputum after a period averaging seven months. All patients who had negative sputum after operation recovered, while those who continued to have positive sputum either remained sick or died.—*Thoracoplasty in Pulmonary Tuberculosis*, Kennon Dunham and Elsie Asbury.—Jour. A.M.A., July 30, 1932.

NURSING FACTS AND FALLACIES*

By KATHRYN TRENT, R.N.
President, West Virginia State Nurses Association
Charleston, W. Va.

YOUR Association and our's have a similar objective, adequate care of the sick; and in attaining this objective we obviously have similar problems.

Today I want to discuss with you briefly the problem of over-production in our profession and state some of the facts which have caused this condition in our state, as well as in general throughout all the states.

The following figures are from a recent release to West Virginia by the Grading Committee:

Population in 1920..1,463,701
Population in 1932..1,729,205
Per cent of increase since 1920— 18%
Trained nurses in 1920..1,183
Trained nurses in 1930..2,502
Per cent of increase since 1920—112%

In 1930 there was one trained nurse for every 690 people, one trained or untrained nurse for every 468 people. The typical family in our state has 4.6 persons—there are 102 families per nurse, trained and untrained. One out of every 22 women wage earners in West Virginia is a nurse.

During 1930-1931 there were 400 nurses admitted by examination in the state. In 1920-21 there were 262, an increase of 53%. I need not elaborate on these figures. You can readily see why we as a nursing profession are concerned.

Now for the facts in the case, being agreed that there are too many nurses in West Virginia.

1. Our schools of nursing are not an integral part of the general educational system.

2. The labor of students has not done so and can not finance a satisfactory or an adequate educational program.

3. The legal requirements for admission to our schools are too low.

4. We must not graduate nurses from our schools who because of low grade intelligence should never have been permitted to enter.

5. The "profit motive" does still exist in many of our hospitals and the student is an asset.

Dr. E. P. Lyon, speaking before the Biennial in San Antonio said, "Hospitals do not conduct medical schools, why should they run nursing schools?" The answer is, to continue quoting Dr. Lyons, "They wouldn't if it were not for the profit in it."

We must face the fact that we must reach a sound basis for future development as we admit the fallacies of our past. Diagnosing our case is not sufficient, we must treat it and plan for permanent cure.

May I offer the following prescriptions for at least some of our ills:

1. There should be no official recognition of a school unless it is connected with a hospital having more than 15 patients, which is our present minimum requirement. The Red Cross requires that a nurse be a graduate of a hospital having an average of 50 patients daily before she can enroll.

2. There must be more rigid educational standards. The completion of a four-year high school course should be made mandatory. An analysis of the student's high school record should be made. An intelligence test is an additional means of evaluating prospective students. West Virginia has gone to 34th place.

3. We must work for the development of schools of nursing as a part of the general educational system. Under such a plan state aid would be obtainable.

4. No hospital which assumes the responsibility of conducting a school of nursing should sacrifice the educational interest of the student to the economic program of the hospital. If the educational program is sound, the allowance given to students could be abolished and the funds used to help hold high the educational program.

5. The number of schools of nursing should be decreased so that the output of nurses would assume a more normal proportion in relation to the need. It is folly to expect the poor school to take leadership in this matter. Why *would* they assume leadership in an emergency? It is up to the best to act the wisest.

May I state in conclusion that we need the members of the medical profession to stand by us unselfishly, coöperating with our leaders in their efforts to improve the schools of nursing so that we may have quality, rather than quantity, as we continue in our efforts to nurse all the sick of all the world.

* Read before the Hospital Association of West Virginia at Elkins on September 1, 1932.

PRESIDENT'S PAGE

TRADITIONALLY we are, with occasional exceptions, a group refusing to enter into discussions of political matters. Long may this sentiment prevail! Individually and collectively, however, we have always championed the cause of the weak and unfortunate.

Our Association has undertaken a definite and rather large program this year, and some of this program must be settled within our Association. By far the most important part of it can not be settled except by a change in our state laws regarding the care and control of the sick and insane confined in our state institutions. We do not offer individual criticism of those in charge, but we do condemn the system that places the supervision of the type of treatment rendered those unfortunates in the hands of lay politicians. We further condemn the method long in use of selecting the medical personnel in many instances for no other reason than the payment of political debts. We shall continue to oppose any system that requires the various medical superintendents to act as business managers, leaving them little time to attend to the needs of the sick.

An opportunity was given to both candidates for Governor, through an editorial in the October JOURNAL, to state their views regarding this part of our program. It is hoped that each man will avail himself of the opportunity. This should never become a partisan matter. It is a humane movement that we feel honored in starting, and one that any Governor should feel the greatest pride in seeing fulfilled during his administration.

In a few days, members of the legislature and all other state officers to represent us for the next four years will be elected. We shall be derelict in our duty as physicians and indifferent to the welfare of those unfortunate sufferers if we fail to acquaint the various candidates with our humane program. We should support only those who show a sympathetic understanding of the needs of those patients and a desire to help eliminate this stigma in our state.

This matter should be far more important to us than partisan politics. The issue confronting us is clear cut. Shall the treatment rendered the sick wards of the state remain under the supervision of lay politicians and lay welfare workers or will it be carried out under the supervision of a non-political Medical Board selected by our State Association? The future welfare of those unfortunates depends upon your influence and mine. Shall we, as true physicians, ignore their appeal? I can not think so.

Albert K. Hoge

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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GUBERNATORIAL CANDIDATES REPLY

An editorial under the caption, "Medical Supervision," was published in the October issue of this JOURNAL dealing with alleged conditions of neglect in many of the state institutions caring for the sick. It was pointed out that the cause of this alleged neglect was due to a lack of proper medical supervision over the institutions themselves. The editorial proposed that a medical board of governors or supervisors be appointed by the Governor from an approved list submitted by the Association to have complete medical supervision over all state institutions dealing with medical care.

We are pleased to announce that both the Republican and Democratic candidates for Governor, Mr. Townsend and Judge Kump, have declared themselves in favor of the remedy suggested by the JOURNAL. With these declarations, we feel that we have successfully crossed an important milestone in our efforts to secure better care and attention for the state's wards.

In publishing the statements of Mr. Townsend and Judge Kump, we first wish to extend to each of these distinguished statesmen our appreciation of the confidence and faith in which they hold the medical profession of West Virginia. We feel that no further comment is necessary.

Judge Kump has written us as follows:

"My attention has been called to the editorial under the caption "Medical Supervision" in the October, 1932, number of the WEST VIRGINIA MEDICAL JOURNAL. I am in accord with the spirit of the editorial and so expressed myself when I was not a candidate for office. The care of those sick in body or mind should be entrusted to people fitted by talent, training, experience, and sympathetic understanding, for this essential and humane service. They should not be forced to submit themselves to politicians and political henchmen."

Mr. Townsend's statement reads:

"I have read with a great deal of interest the editorial in the last number of the MEDICAL JOURNAL suggesting that the medical fraternity of the State be more freely consulted by the chief executive in the matter of the conduct of those state institutions charged with the responsibility of caring for unfortunates who are afflicted in body and mind.

"I am in hearty accord with this suggestion. If I am elected Governor of West Virginia, I shall not only welcome but will seek the advice and counsel of the duly chosen representatives of the physicians of the state in the matter of selecting the superintendents of such institutions, and also in all matters of policy affecting these institutions.

"The problem of caring for the state's unfortunates is one that transcends politics. It should be treated as the humanitarian question that it is. Obviously the only group qualified by training and experience to give assistance to the governor in such matters is the medical fraternity, and it is to that fraternity that I would expect to turn. With their help I believe it is possible to work out a program that will insure intelligent and effective care of our unfortunates."

NEW FORMS OF MEDICAL PRACTICE

To the readers of this JOURNAL, we heartily commend an editorial that appeared in the October 8 issue of the *Journal of the American Medical Association* under the title, "New Forms of Medical Practice." The editorial deals particularly with two recently organized corporations for the practice of medicine, one in Illinois and the other in New Jersey. We quote the following excerpts from the editorial:

"Physicians who have considered seriously the acceptance of full-time salaried positions with corporations of business men who propose to exploit such service for profit may consider well what happens when economic stress, personal relationships, differences of opinion as to scientific methods, or similar complications necessitate separation of the employed from the employer. The employer of the physician in private practice is his patient. In times of stress these patients may not be able to pay him as much as previously, perhaps not at all. During the present emergency most physicians are continuing to care for their patients and are waiting patiently for the period when a return of prosperity will permit the settling of debts. These physicians still have their practices. The physician employed by a corporation has no practice of his own. The patients are not his patients—they are the patients of the clinic, institute, group or other corporation that employed him. When he severs his connection with his employer, for any of the reasons that have been mentioned, he must remove most frequently to another community, there to begin as he might have begun years before, to develop the relationships with individual patients that have been the very basis of medical practice since the beginning of time."

In the above paragraph we see the American Medical Association at its best; going straight to the organized medical profession of America with a problem that looms large on the horizon of our scientific and economic welfare. To heed the advice of our parent organization is to act with wisdom and sagacity.

In our own state of West Virginia we see new schemes and new plans of medical practice occasionally come into being. The physician who feels that he might be interested in some new form of practice should ask himself three questions. First, does the new plan place the control of medical practice in lay hands? Second, does the physician work on a salary for a corporation or group organized for profit? Third, does the plan advertise for patients or solicit patients in any way? Unless all three of these questions can be answered in the negative in regard to any new form of medical practice, we feel that it should be given a wide berth.

cine in this country have been clearly stated again and again. Opposed to those ideals are attempts to commercialize medical practice through exploitation of the services of physicians by corporations which consider medical ethics merely a hindrance. Such corporations do not hesitate to evade the obstruction, soliciting patients by newspaper publicity, the radio, and other methods of indirect advertising and also by direct announcements in the press."

RULING ON PERMITS

State permits issued to physicians to purchase grain alcohol will serve as permits to prescribe medicinal liquor under provisions of the law enacted at the special session of the legislature, it has just been announced by W. G. Brown, state prohibition commissioner. Decision to use the alcohol permits was reached after a recent conference with federal authorities.

Another recent announcement relating to the new statute was to the effect that it would go in force on November 3 instead of November 17. Federal authorities assumed until recently that November 17 would be the effective date, as that would be the expiration date of the 90-day period after the bill was passed over the Governor's veto. The Attorney General, however, ruled that the 90-day period should date back to the original passage of the bill early in August.

Commissioner Brown sent out a letter to West Virginia physicians on October 18 setting forth that the alcohol permit was the only authorization required by the state. Physicians who hold no alcohol permit may make application for the remainder of the calendar year, 1932, and a permit will be issued. Copies of such permits will also be mailed the federal supervisor so that there will be no delay in receiving federal permits.

An additional paragraph in Commissioner Brown's letter disposes of the question of the dispensation of medicinal whiskey by physicians. This paragraph reads, "The state

As the *A. M. A. Journal* has so aptly pointed out, "The ideals of established medi- law does not authorize physicians to possess medicinal liquor. They can only prescribe the same according to the regulations of the federal government."

When the federal and state provisions are complied with, the physician will receive a "Record of Prescriptions," in addition to the book of prescription blanks. On the inside front cover of this record is an outline of the major provisions of the federal prohibition laws, together with instructions for writing the prescriptions. In this record book must be placed the names of all patients, in alphabetical order, who receive prescriptions, the date the prescription was issued, the ailment and the directions.

OBITUARY

DR. JAMES A. DUFF

Dr. James A. Duff of Martinsburg, one of the most prominent surgeons in northern West Virginia and former state commander of the American Legion, died in the Walter Reed Hospital, Washington, on October 21. Death followed an illness of several months duration. Dr. Duff was 51 years of age.

The deceased was born in Baltimore in 1881 and received his collegiate and professional training there. He was graduated from the Maryland Medical College in 1909 and came to Martinsburg three years later to locate. At the outbreak of the World War he entered the medical corps as a first lieutenant. He served in France throughout the duration of the war and was promoted to the rank of lieutenant colonel.

From 1924 to 1928, Dr. Duff was commander of the Martinsburg post of the American Legion and subsequently became state commander. In 1926 he was made a vice-commander of the national organization.

Dr. Duff was also very active in the affairs of the Eastern Panhandle Medical Society and was instrumental in securing the state convention for Martinsburg in 1929. He will be remembered as one of the genial hosts by all who attended the meeting in Martinsburg. Funeral services were held on October 25 at the home of Dr. Duff's mother, Mrs. Sarah Duff, in Baltimore. He is survived by his mother, his widow and one child. Two children by a former marriage, living in Baltimore, also survive. The death of Dr. Duff is a great shock to his hundreds of friends and admirers, both in and out of the profession, in West Virginia.

DR. FLOYD S. SUDDARTH

Dr. Floyd S. Suddarth of Grafton, prominent Taylor County physician, died at his home on the morning of October 13 following an illness of two months. He was 59 years of age.

Dr. Suddarth was the democratic nominee for the house of delegates from Taylor County and a former member of the state senate, serving during the legislative sessions of 1923 and 1925. As a physician, he had a large and varied practice. He was held in the highest esteem by his confreres and was one of the leaders in the Taylor County Medical Society for many years prior to his death.

The deceased was graduated from the University of Virginia School of Medicine n 1897 and came to West Virginia in 1903. He is survived by his widow and two children. Funeral services were held on October 15 and interment was made in the Bluemont cemetery, Grafton.

DR. WILLIAM W. REYNOLDS

Dr. William Wilson Reynolds of Proctorville, Ohio, died of heart disease on October 24 at the home of his son, Dr. C. O. Reynolds, Huntington. He was 77 years of age and was one of the founders of Ohio Medical University, now a part of Ohio State. He practiced at Proctorville for half a century, exclusive of the time he held the first chair of anatomy at the Ohio Medical University at Columbus.

Dr. Reynolds graduated from the Rush Medical College in 1883 and also received a degree from Jefferson Medical College of Philadelphia in 1892. He is survived by his son and one daughter, both practicing physicians in Huntington. His daughter is Dr. Nellie Reynolds Kriete.

COUNTY SOCIETY NEWS

TYLER-WETZEL

A warning against extravagant and unusual offers of magazine solicitors was recently sent in from the Tyler-Wetzel section in an effort to forestall the activities of unreliable agents in other parts of the state. The members of the medical profession, it appears, are favorite prospects for magazine agents.

Several doctors in Sistersville and New Martinsville were recently induced to subscribe for three well-known national magazines through misleading statements and promises of the agent. Two of the magazines were received for a much shorter period than was promised by the agent and one failed to show up altogether. One doctor wrote the publishing company about the discrepancy and the matter was adjusted to his satisfaction.

It was pointed out, in this particular case, that the fault was with the agent and not with his publishing house. When extravagant promises are made by solicitors, physicians are cautioned to be on their guard. A request to put such promises in writing will usually dampen the ardor of the solicitor.

The marriage of Dr. Gene M. Harsha, Sistersville, to Miss Dorothy McCoy, also of Sistersville, was solemnized at Oakland, Maryland, on August 31, 1932.

H. P. WEST, Secretary.

MONONGALIA COUNTY

Dr. F. R. Whittlesey, Morgantown, gave an excellent paper on "Pneumothorax" at the October 4th meeting of the Monongalia County Medical Society which was held in the Junior High School library at Morgantown. An interesting discussion followed.

G. R. MAXWELL, Secretary.

OHIO COUNTY

Dr. W. James Cardner of the Cleveland Clinic, Cleveland, Ohio, was the scientific essayist at the October 7 meeting of the Ohio County Medical Society, which was held at the Ohio Valley General Hospital. His subject was "Some Aspects of Brain Surgery." Discussants were Dr. J. O. Rankin and Dr. R. U. Drinkard, both of Wheeling.

The Ohio County Society had the honor of entertaining the president-elect of the American Medical Association on the evening of October 19, when Dr. Dean Lewis, Baltimore, read a splendid paper on "Differential Diagnosis of Some Lesions of the Breast." The meeting was held at the Ohio Valley General Hospital, Wheeling. Discussants of Dr. Lewis' paper were Dr. J. Schwinn, Dr. W. S. Fulton, and Dr. J. R. Caldwell, all of Wheeling.

RUSSELL C. BOND, Secretary.

CABELL COUNTY

A joint meeting of the Cabell County Medical Society with the Boyd County (Kentucky) Medical Society was held at Ashland on Monday evening, October 3, with a fine attendance. The meeting took place at the King's Daughters' Hospital.

The scientific program was presented by the Cabell Society, Dr. W. E. Vest talking on "Visceral Lues," and Dr. C. G. Willis on "Lues of the Cardio-vascular System." Both papers were discussed at length by the members present.

W. W. STRANGE, Secretary.

G. H. H. M. SOCIETY

A most interesting meeting of the Grant, Hardy, Hampshire, Mineral Medical Societies was held at the Potomac Valley Hospital, Keyser, on the afternoon of September 23. There was a good attendance and much interest in the scientific program.

The essayists were Dr. W. P. Black, Charleston, who talked on "Diseases of the Terminal Bowel." Dr. William A. Welton, Fairmont, talked on "Pelvic Injuries." The scientific program was concluded by Dr. A. F. Lawson, of Weston, whose subject was "Traumatic Rupture of Small Intestines Without Visible External Signs."

The next meeting of the society will be held at Moorefield.

T. C. GIFFIN, Secretary.

MERCER COUNTY

The regular monthly meeting of the Mercer County Medical Society was held in the Municipal Building, Bluefield, on the evening of September 29, with twelve members and three visitors present. During a short business session, Dr. H. R. Connell, Bluefield, was elected to membership. Dr. H. G. Steele, Dr. R. O. Rogers, and Dr. J. I. Markell were appointed as the program committee for the next three months.

The scientific program was opened by Dr. J. E. Blaydes, Bluefield, with a paper on "Blindness from the Practitioner's Standpoint." He was followed by Dr. J. Lee Harris who gave a paper on "Dentigerous Cyst of the Antrum of Highmore with Unusual Characteristics." Both of these papers were freely discussed.

R. R. STUART, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular October meeting at the Hatfield-Lawson Hospital, Logan, on the evening of October 18 with seventeen members and visitors present. Dr. Clinton L. Border, of the Hatfield-Lawson Hospital, Logan, and Dr. D. S. Hess, of Holden, were elected to membership in the society.

After transaction of other routine business the following scientific program was rendered: Dr. Lawrence W. Lawson, of the Hatfield-Lawson Hospital, gave an interesting case report of a woman with a bi-cornuate uetrus. She had had ten pregnancies. The first nine children died as result of difficult full term deliveries—apparently transverse presentations with the head and upper part of the body in one horn of the uterus and the lower part of the body in the other horn. In her tenth delivery, her doctor knowing her condition and history, and anticipating trouble again, saw her at the beginning of labor, and, under ether anesthesia, did a podalic version and delivered a living, normal child, now grown to manhood. The patient, now 55 years of age and five years past the menopause, losing weight, and having uterine hemorrhage, was suspected of having carcinoma, and hysterectomy was recently performed by Dr. Lawson. The uterus, which was exhibited with this case report, apparently was not malignant though the pathological report has not yet been received, but contained some fibroids.

The essayist of the evening was Dr. R. M. Wylie of Huntington, who read an excellent paper on "Modern Diuretics."

FRED E. BRAMMER, Secretary.

CABELL COUNTY

Dr. W. E. Vest, Huntington, was the essayist at the October 27 meeting of the Cabell County Medical Society which was held at the Hotel Pritchard. His subject was "Visceral Lues," which was ably presented and discussed by many of the members present. W. W. STRANGE, Secretary.

EASTERN PANHANDLE

The regular quarterly meeting of the Eastern Panhandle Medical Society was held at noon, September 14, in the Gold Room of the Hotel Shenandoah, Martinsburg. Immediately following the luncheon the society opened its proceedings. Among important transactions was the acceptance of the application of Dr. N. B. Hendrix for membership.

The program was devoted entirely to a very interesting and instructive paper presented by Dr. L. H. Douglas of the Department of Obstetrics, University of Maryland. The December meeting will be held in Martinsburg.

EDWIN CAMERON, Secretary.

KANAWHA COUNTY

One of the most interesting meetings of the year was held on the evening of October 11 in the Public Library building, Charleston, with an overflow attendance. Dr. H. H. Haynes, Clarksburg, was the principal essayist, and his subject was announced as "Sadism; A Discussion Illustrated by a Famous Case History." Dr. Haynes gave a most interesting presentation on the subject, followed by the case report.

A most able discussion of Dr. Haynes' address was made by Dr. John E. Winter, head of the Department of Psychology of West Virginia University, who considered the subject from the standpoint of the psychologist rather than that of the physician. Interesting discussions were also presented by Dr. O. B. Biern, Huntington, and Dr. T. R. Beggs, Spencer.

A second paper of interest and much merit was presented by Dr. J. G. Ralston, Clarksburg, on the subject, "Spinal Anesthesia and Avertin." Discussion was opened by Dr. Bankhead Banks, and a number of questions followed which were answered by the essayist.

Three new members were admitted to the society at this meeting. They were Dr. V. E. Mace and Dr. P. A. Haley II, Charleston, and Dr. C. T. Whiteside, Kayford. Also a resolution was adopted permitting certain colored physicians to "sit in" at the scientific meetings of the society.

M. F. PETERSEN, Secretary.

HOSPITAL NEWS

NIGHT NURSING SERVICE

A new deal for the hospital patient at night is asked by Blanche Pfefferkorn, R.N., after a study of the night nursing service in seven hospitals on the eastern seaboard. Miss Pfefferkorn's analysis of the nursing on acute medical and surgical wards in these hospitals forms the basis of a striking article in the *American Journal of Nursing* for November.

"While from the standpoint of the student there is much that is difficult to defend in the present system of night nursing, from the standpoint of the patient there is more that is indefensible," states Miss Pfefferkorn, who is director of studies of the National League of Nursing Education. "The wise innovations introduced in the last two decades into the nursing program by day—graduate head nurses, an increased number of bedside graduate nurses, more and better supervision, shorter hours, and supplementary ward workers—have scarcely touched the night nursing program."

To get the data presented in her article, Miss Pfefferkorn obtained permission from the hospitals to spend twelve consecutive hours from 7 p. m. to 7 a. m. observing nursing at night. The information thus obtained was treated as strictly confidential. Once the material was gathered it was indexed under a code. The interest of the National League of Nursing Education in making this study, according to its statistical worker, is not in the nursing in any particular hospital, but in nursing at large. It is believed that the nursing conditions found in the seven hospitals visited are not peculiar to these institutions but that similar conditions exist in many other hospitals.

In six of the seven institutions visited, the acute medical and surgical wards studied were staffed with student nurses. In the other a graduate and a student constituted the bedside staff throughout the night. The average number of minutes of care per patient in these hospitals ranged all the way from 21.8 to 144 minutes.

Not only was there a wide range in the quantity of service, but there was an equally wide range in the quality of service, Miss Pfefferkorn found. In three of the hospitals visited, the night nursing on the wards in which observations were made was entirely delegated to students who had been in school less than a year. In these three hospitals, ten or twelve hour duty was still in effect. Inadequate preparation and long hours of service both militated seriously against the safe care of the patient, Miss Pfefferkorn contends. Try as she will, the director of nursing can not regulate satisfactorily the staffing at night unless the hospital provides a reasonable number of graduate nurses for bedside service.

Not only was the nursing of patients delegated to an inadequate and immature staff, but the study indicated that night supervisors are not selected upon the same high standards as are the day supervising staff. Two instances of excellent night supervision were cited. Certain other improvements were noted, such as the postponement of the early morning work until 5 or 6 a. m., and the serving of breakfasts by the day staff instead of the hurried unsatisfactory serving by the night nurse.

If patients are to have proper care at night, four conditions must obtain, Miss Pfefferkorn concludes. These are as follows:

1. Enough nursing time must be provided.
2. Night nurses must be adequately prepared. This provision includes a liberal number of graduate bedside nurses for the night.
3. Enough supervision must be provided, both in quality and in quantity.
4. A reasonable hour schedule must be put into effect.

CANCER BULLETIN

The American Society for the Control of Cancer has announced that the Bulletin of the Society is to be made its official organ and that the relationship between the Society and the *American Journal of Cancer* has been discontinued. This action was taken by the board of directors of the Society on October 8, 1932.

FACIAL DEFORMITIES

Binding of girls' feet by the Chinese and fastening a board against the infant's head to flatten the back of the skull by the Flathead Indians are good examples of what can be done by external pressure on developing bodies. Dr. L. B. Higley describes in *Hygeia* how deformities and irregularities result from constant repetition of a bad practice.

BOOK REVIEWS

NEW PHARMACOLOGY

The student of medicine will always find the large standard texts on pharmacology indispensable for critical study of the actions and uses of drugs. These texts, however, are in many instances so voluminous that they are not available for ready reference or for study in spare moments.

Heretofore there has been no comprehensive, small-size work on pharmacology. To meet this need Dr. Stanley Coulter, Dean Emeritus of the Purdue University School of Science, spent over three years in the preparation of a compact treatise on the pharmacology of the drugs now in common use by the medical profession. In this work he had the coöperation of members of the medical and research staffs of the Lilly Laboratories.

The subjects are alphabetically arranged for quick reference. Under each title there is a terse statement of the constituents of the drug, its physiological action, dosage, and brief mention of its more important therapeutic uses.

The book is supplied in flexible fabricoid binding, 254 pages, published by Eli Lilly and Company, Indianapolis; price 50 cents per copy postpaid.

HOSPITALS AND CHILD HEALTH

HOSPITALS AND CHILD HEALTH—a publication of the White House Conference recently released by the Century Company. Price $2.50.

In the study of what is being done for the health and protection of children, the hospital at once stands out as a very important factor. Our ideas as to its functions in this field have changed very materially during the past twenty years, and we now realize that the hospital is no longer simply an asylum where sick persons may be treated for their physical ailments. One of its many and varied problems is to share the responsibility of keeping the patient in health.

In "Hospitals and Child Health," a publication of the White House Conference on Child Health and Protection, is presented a mass of valuable and suggestive information which was secured by three subcommittees of the White House Conference during a year's study and investigation of the whole problem of the relationship of the hospital towards the health and welfare of children.

The first part of the book presents the findings of the subcommittee on Hospitals and Dispensaries, of which Clifford G. Grulee, M.D., of the Rush Medical College of the University of Chicago, is chairman. This part surveys the situation in children's and orthopedic hospitals, dispensaries, and posture clinics.

The second part presents the findings of the subcommittee on Convalescent Care, of which Adrian V. S. Lambert, M.D., of the Welfare Council of New York City, is chairman. This part considers the situation in convalescent homes and offers practical suggestions for improving the service and increasing the number making use of convalescent care.

The final part of the book presents the findings of the subcommittee on Medical Social Service, of which Ida M. Cannon, R.N., of the Massachusetts General Hospital, is chairman. It offers a careful summing up of conditions in rural and in urban communities and indicates how activities should be encouraged.

WHAT PRICE ANTIVIVISECTION

Animals used for experimentation in laboratories for the purpose of advancing scientific learning are not treated cruelly. In more than twenty years of active teaching and research work in medical colleges, Dr. Virgil Moon maintains in the November *Hygeia* in his article, "What Price Antivivisection," that he has used, or seen used, animals in every form and for every purpose, but none on which the code of ethics of the scientist has ever been violated. This code requires that in all experiments on animals an anesthetic shall be used unless the experiment is of such a nature as to cause less discomfort than would be caused by anesthesia.

In 1880 the average duration of human life was 41.78 years; in 1925 it was 58.29 years. The stupendous aggregate saving of human life just cited would have been impossible but for animal experimentation. Experimentation on both human beings and animals has so decreased the death rate of yellow fever, cholera, plague, puerperal fever, diphtheria, scarlet fever, malaria, dysentery, typhoid, smallpox and many dietary and metabolic diseases that outbreaks of some of these diseases are unknown, and deaths from many of the others are less than one-tenth their former number.

GENERAL NEWS

DR. LYON APPOINTED

Governor Conley has recently announced plans for West Virginia's follow-up of the White House Conference on Child Health and Protection by the appointment of Dr. George M. Lyon of Huntington as state chairman.

He also announced the appointment of a planning committee consisting of Wm. Cassius Cook, state superintendent of schools; Dr. W. T. Henshaw, state commissioner of health; Captain Calvert L. Estill, director of the Department of Public Welfare; Dr. John R. Turner, president of West Virginia University; Dr. D. A. MacGregor, president-elect of the West Virginia Medical Association, and Nat T. Frame, director of the Extension Division.

The White House Conference was called two years ago by President Hoover for the purpose of bringing to the people of the United States the results of the studies of 1,200 experts in the fields of child health, welfare, and education.

Dr. Lyon is well qualified to head such a statewide conference having been a member of one of the committees of the White House Conference.

COLLEGE OF PHYSICIANS

Announcement has been made that the American College of Physicians will hold its seventeenth annual clinical session at Montreal, with headquarters at the Windsor Hotel, February 6-10, 1933.

Dr. Francis M. Pottenger of Monrovia, California, as president of the college, has charge of the program of general sessions. Dr. Jonathan C. Meakins, Professor of Medicine and director of the department, McGill University Faculty of Medicine, is general chairman of local arrangements and in charge of the program of clinics. Mr. E. R. Loveland, executive secretary, 133-135 S. 36th Street, Philadelphia, Pennsylvania, is in charge of general business arrangements, and may be addressed concerning any feature of the forthcoming session, including copies of the program.

HEART COMMITTEE APPOINTED

Following the Oration on Medicine, "Heart Disease in West Virginia," by Dr. R. J. Condry, at the Parkersburg meeting last June, a resolution was adopted authorizing the appointment of a Heart Committee of the West Virginia State Medical Association to confer and work with the American Heart Association in a study of heart disease in this state.

Dr. Albert H. Hoge, President, has just announced the appointment of this committee. Dr. Condry, Elkins, has been appointed as chairman. The members are Dr. Walter E. Vest, Huntington; Dr. W. M. Sheppe, Wheeling; Dr. Carl F. Raver, Charleston, and Dr. G. H. Barksdale, Charleston.

ANNUAL A.M.A. CONFERENCE

The American Medical Association's annual conference of state secretaries and editors will be held at the Palmer House, Chicago, on November 18 and 19, 1932. This year's conference will be devoted almost entirely to a discussion of contract practice in its various and allied forms. Those who will attend the conference from West Virginia will be Dr. C. R. Ogden, representing the JOURNAL; Dr. D. A. MacGregor, president-elect, and Mr. Joe W. Savage, state secretary.

SOUTHERN MEDICAL MEETING

The twenty-sixth annual meeting of the Southern Medical Association will be held at Birmingham, Alabama, on November 16-18, 1932. In addition to the usual excellent scientific program, a feature of the Birmingham session will be the four conjoint meetings; the American Society of Tropical Medicine, the national Malaria Committee, the Southern Branch of the American Public Health Association, and the Southern Branch of the Society for Experimental Biology and Medicine.

Modern scientific and practical medicine and surgery in its various phases will be covered in the general and clinical sessions and the sixteen sections of the organization. In addition to its scientific programs, the Southern Medical Association is famous for its hospitality and recreational facilities that make a medical meeting complete. Special entertainment has been arranged for the doctor's wives.

A large number of West Virginia doctors are members of the Southern Medical Association and a delegation from this state is expected to be present at the Birmingham meeting.

NEW FIGURES ON MEDICAL COSTS

Under an organized medical service, young men and women of the age and type of the college student can be provided with comprehensive medical

care at a cost of from $14 to $24 per capita, annually. This estimate is based on a study of the costs for the school year of operating organized student health services in four state universities—Michigan, Minnesota, California, and Oregon State Agricultural College—contained in a report made public recently by the Committee on the Costs of Medical Care.

The study, covering the academic year of 1929-30, has significance for the general population of the United States, it is pointed out, because it adds new and significant data on the advantages to be gained by organization of medical care through group practice by physicians and group purchase by those needing medical service.

The report, "University Student Health Services," by Don M. Griswold, M.D., and Hazel I. Spicer, published by the University of Chicago Press, is the nineteenth study completed by the Committee on the Costs of Medical Care which, on November 29th of this year, will make public its final report with recommendations based on its five-year study of the problem of "providing adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them."

In addition to the four state institutions named above, the report also contains surveys of the health services at Yale and Cornell, where the per capita costs were found to be considerably higher, because of different organization, heavy capital investment in buildings and equipment, and the like. However, it was believed that the estimate of $14 to $24 per capita represents, on an annual basis, a fairly close approximation of what the cost would be, under organized medical service, for reasonably comprehensive medical care for young people of college age.

Approximately 40,000 students in the six educational institutions were entitled to medical care provided by the respective health services. At all six institutions, the health services were found to be maintained through payment of student fees, supplemented by subsidies from the institutions themselves. These subsidies ranged from almost nothing to almost half the entire costs. At the four state institutions, student fees practically covered all costs; at Yale and Cornell, students paid only slightly more than half the costs of the services they received.

While the report does not deal with health services maintained in many other colleges, it is pointed out that if the 569 chief colleges and universities in the United States all provided such services for their 800,000 students, about six-tenths of one per cent of the population of the country would be eligible to comprehensive medical care and health supervision for a moderate fee—at least for a large part of the year. If, as is the case in some educational institutions, faculty members and their families, or employees and their dependents (or both) were included, more than 300,000 additional individuals would thus be entitled to such care.

Important facts revealed by the study of the six university student health services include the following:

1. Per capita costs for 250 days of operation in the six universities studied ranged from less than $10 at the Oregon State Agricultural College to approximately $34 at Yale University. Fees paid by the students ranged from $9 a school year to $20.

2. Students' fees entitled them to receive widely different types of service, ranging from a preliminary medical examination on entrance, supplemented by counsel and advice by a general practitioner in cases of ambulatory illness, to thorough periodic examinations, correction of physical defects, hospitalizaton, and surgery.

3. Because of emphasis upon health examination, the directors and personnel of these services were in a position to concentrate their efforts upon preventive medicine and the early discovery of disease and defects rather than upon remedial measures required to relieve advanced pathological conditions.

4. Student health services provided for physicians on the staff the best of modern diagnostic and therapeutic facilities.

The director of one health service, in commenting on the results of the university health service plan, stated:

"Under the individualistic system, even for a similar average expenditure, students could not obtain nearly so much nor so competent service as they receive under the group plan; because when students find it necessary to select private physicians and pay for each visit or service rendered they obtain most of their medical advice from friends or community drug stores and call physicians only when their illnesses become serious or incapacitating."

Another director wrote: "Some of the objections most frequently raised to a plan of this sort are that the valuable personal relationship between patient and physician would be lost,

WOMAN'S AUXILIARY

EXECUTIVE BOARD MEETING

The Executive Board of the Woman's Auxiliary met at the Wheeling Country Club on Friday, September 30, 1932. Mrs. Howard T. Phillips, President, outlined the year's program of work and discussed plans with the board members.

Mrs. Walter Jackson Freeman, Philadelphia, was then introduced to the audience and spoke in a most interesting manner of the Auxiliary work. Mrs. Freeman is eminently fitted to speak on this subject, being the daughter, widow and sister of doctors and the mother of two doctors. The more than twenty members present were loathe to conclude the round-table discussion which followed Mrs. Freeman's address.

Following the board meeting, the Wheeling Auxiliary entertained the visiting board members at a tea of charming appointments. Mrs. Phillips entertained the out-of-town ladies at a dinner at her honoring Mrs. Freeman.

KANAWHA AUXILIARY DISPENSARY

The Kanawha County Auxiliary has accomplished several outstanding things this year. Notable among these is the Dispensary in the Orphan's Home at Charleston. They also donated fifty cans of fruit as well as books and clothing to the Hill Crest Sanitarium for tubercular children. It was due largely to the influence of the Kanawha Auxiliary that Charleston passed an ordinance prohibiting the display of fruits and vegetables on the side walks. These activities are most commendable and are typical of those of other auxiliaries in the state.

VIRGINIA MEDICAL MEETING

The sixty-third annual session of the Medical Society of Virginia will be held in Richmond on November 1, 2 and 3, 1932, with headquarters in the Richmond Academy of Medicine Building on East Clay Street. The usual attractive program has been arranged. Out-of-state essayists will be Dr. Robert B. Osgood of Boston, and Dr. William Minor Dabney of Baltimore.

MORBIDITY REPORT
SEPTEMBER, 1932

	Typhoid Fever	Scarlet Fever	Diphtheria	Tuberculosis (All Forms)	Influenza	Poliomyelitis
Barbour	18					
Berkeley	5	2	5	12		
Boone		6	7			1
Braxton	12		6			
Brooke	2	3				
Cabell	4	16	14	11		
Calhoun	6		1			
Clay	11		3			1
Doddridge	16	1			15	
Fayette	14	6	1			2
Gilmer	4	4	1			
Grant	1					
Greenbrier		4	4			
Hampshire	3					
Hancock	1			1		
Hardy	3	2				
Harrison		4				
Jefferson					2	
Kanawha	24	5	20	13	2	
Lewis	2	3	4			1
Lincoln	7	1		1		
Logan	13	14	8	2		
Marion	5	3	1	5		
Marshall	3	3	1			
Mason		6			3	
Mercer	11	10	2			3
Mineral	4	24		6		
Mingo	7		6			
Monongalia	14	11		1		
Monroe	1					
Nicholas	3		3			
Ohio		2		13		
Pendleton						
Pleasants	1	2		1		
Preston	6	1		1		
Putnam	13					
Raleigh	10	7	20			9
Randolph	1	1				
Ritchie			1			
Roane	2		2			
Summers	1	2				1
Upshur		2	1			
Wayne	15	2	16			
Webster	3		4			
Wirt	3	1	8			
Wood	5	13	7	4		
Wyoming	7	3				
Totals	261	163	146	71	22	18

The West Virginia Medical Journal

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JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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INDICATIONS FOR CESAREAN SECTION *

By WM. D. PORTER, M.D.
Cincinnati, Ohio

OBSTETRICIANS agree fairly well as to the indications for cesarean section. The great difficulty is in recognizing these indications in the individual patient. This difficulty is not peculiar to men in general practice. Specialists and experts are sometimes uncertain as to whether, in a given case, cesarean or pelvic delivery is better. Undoubtedly sections are done in cases which, if let alone, would deliver normally. On the other hand, there are cases of difficult delivery, per vias naturales, in which section would have been the wiser choice. Any obstetrician of much experience can recall cases of forceps delivery in which serious damage was suffered by the mother or by the child. Section, if elected in these cases, would have averted much unhappiness. In far too many instances section is done after hours of hard grilling labor and in some cases after forceful forceps traction has been tried. It is well known that these cases have a high mortality. It is not an exaggeration to say that the total mortality rate in cesarean section is higher than for any other abdominal condition except intestinal obstruction.

To remedy this condition there must be a better understanding of proper indications and greater diligence and skill in discovering and evaluating these indications in the individual case. Such advance and improvement is incumbent not only on those known as obstetricians but on all physicians who assume the charge of women in pregnancy and labor. There are encouraging signs of improvement. The importance of anticipating dystocia is gaining wider recognition. The woman who has difficulty in a first labor is likely to receive better management in succeeding labors. Internes and young practitioners are learning the essentials of pelvic examination. They are learning the importance of rectal examination in labor, at least up to the point that a normal delivery is evident. It is being realized that prenatal care should protect the woman against the danger of late cesarean as well as from the perils of eclampsia. In private practice, and this is most hopeful, the expert is sometimes consulted in advance of term to help determine the probability of dystocia.

In attempting a forecast of labor the problem is simplified if the patient is a multipara. The history of previous labors is important. This you already know if you were the obstetrician. If not, you should secure an account from the patient or from the former attendant. If a baby of average size has been

* Read before the Central Tri-State Medical Society, Ashland, Kentucky, September 15, 1932.

safely and normally delivered, it is fair to assume that no serious disproportion is likely to develop. If a previous labor was difficult we should not dismiss the matter with the reflection that a second labor is likely to be easier. If the difficulty was due to disproportion, a succeeding labor may be more difficult. If there was a long hard labor terminated by difficult forceps, the gravity of the approaching labor increases. If the forceps operation was so difficult as to result in a dead or dying baby, then section in the next labor is probable, particularly if the unfortunate result occurred in the hands of a competent man. His result may be, in a measure, justified. A second bad result is more censurable. Even though the former accoucher may be your inferior in skill and judgment, it would be illogical to conclude that *you* can do a safe pelvic delivery. Forewarned should mean forearmed. Every resource of your art should be used to determine the best handling of the case. If necessary, x-ray pictures should be made. Careful and thorough pelvic examination under general anesthesia may be necessary. Occasionally scar tissue in the vault of the vagina is some indication of the previous difficulty and it may be a factor in determining the best method of procedure.

What rule should be followed in case of a previous cesarean? There is no rule. The dictum, "once a cesarean, always a cesarean," is not always to be accepted. If the operation was done for disproportion, the burden of proof is upon you if you attempt pelvic delivery. If the pelvis is ample and the cervix soft and patulous it is usually safe to allow labor to proceed to the end of the first stage. Then terminate with forceps unless moderate pains suffice for delivery.

It is estimated that uterine rupture through the old scar occurs in about four per cent of cases. Some writers take a hopeful view of this accident, claiming that only very moderate bleeding is the rule and that recovery is usual, provided a competent surgeon is available. However, there has been a considerable mortality from this accident. Even if we take a sanguine attitude, we should remember the possibility that the placental site may include the scar tissue. In this event the danger of rupture is increased and this would mean serious hemorrhage.

The study of indications in primiparous patients is more difficult and, unfortunately, the percentage of primipara is gradually increasing, due to the growing tendency to smaller families.

In a general way we may say that the tall, light boned woman with a flat back is likely to have normal labors. The heavy, stocky woman is prone to trouble and the chances are greater with an excessive lumbar curve. She appears to have a larger pelvis than her slender sister but, on measurement, the opposite is often found to be true.

Predictions as to the approaching labor should not be made on pelvic measurements alone. They are only a part, and not the most important part, of the evidence. Careful external measurements should always be taken. They are useful in an estimate of the shape of the pelvis. They do not furnish a guarantee as to pelvic capacity. Serious abridgement of internal diameters is sometimes encountered even with normal external measurements. If the woman has small bones, external measurements are reassuring. Pelvic delivery is possible even with considerable shortening of external diameters. If she is heavy boned, normal measurements afford little comfort. Often the size of wrists and ankles is of more value than pelvimetry in estimating the chances of dystocia.

The only internal diameter which can be accurately measured is the diagonal conjugate. From this the true conjugate may be determined with fair accuracy. This is the most important of all diameters. Taken in conjunction with the shape of the pelvis it is of much prognostic value. From digital examination we may determine the width of the pubic arch and the length of the anteroposterior diameter at the outlet. The prominence of the ischial spines may be noted.

Of still greater importance is the routine examination a month in advance of term. In this we try to determine relative dimensions. Is the pelvic capacity ample for the passage of the child? The first item concerns engagement. Occasionally the breech presents. External version is easy, as a rule. Unless the abdominal wall is thick or the patient sensitive, pretty clear evidence as to engagement may be gained by external palpation. If the head is easily rocked from side to side, it is not engaged and unusual judgment is not needed to convince one that more than half the head rides above the brim. On the contrary, if the head can not be rocked from side to side, engagement is pretty certain. Bethel Solomans, master of the Rotunda Hospital, emphasizes this point in his clinical teaching.

To make a satisfactory pelvic examination it is essential to use two fingers and the patient should tolerate strong pressure against the perineum with the knuckles of the other two fingers. If the head is engaged and a finger can be slipped between the head and the pubes you may be sure of enough room in the upper pelvic straits. If there is no engagement, this may sometimes be effected by skillful pressure with the external hand. If engagement can not be effected one of three conditions is likely. The head may be too large. There may be an excessive lumbar curve. Or, rarely, the broad ligaments may hold the head too high. If the head rests against the brim you should determine if it overrides, with an equatorial diameter clearly in excess of the inlet. This may be made out by careful bimanual palpation.

If the examination, as above outlined, is not satisfactory, examination under general anesthesia is indicated. To this the patient seldom objects. Brief anesthesia suffices. The ostium vagina is rapidly dilated to admit the half hand. The contour of the brim is readily mapped out. By pressing the head down with the external hand the question of disproportion may, as a rule, be definitely settled. This is about the only method possible for gaining a clear notion of the mechanical difficulties involved by excessive lumbar curve. Often the head seems to lie beyond a sort of shelf and one realizes the disadvantage under which the natural forces must operate. After a number of such examinations, with careful checking of predictions, one is able to determine, in a large percentage of cases, whether or not cesarean is necessary.

In doubtful cases, x-ray pictures should be made. For the antero-posterior exposure, the patient should lie on an inclined plane with the shoulders elevated so that the rays are at right angles to the plane of the superior strait. Taken with the patient horizontal the picture is misleading, making the pelvis seem ample when there is disproportion. A picture with the patient on her side is essential in showing how far the head has descended into the pelvis. It also discloses the prominence of the promontory.

Intensive examination such as we have noted results in a three-fold classification. First, a few cases in which elective cesarean is indicated; second, a large percentage in which pelvic delivery may be confidently expected; and, third, a small number of cases which may be allowed to go into labor with the idea of careful observation in the early hours for the purpose of a more accurate and positive prognosis.

We are not proposing a test of labor, as that expression is usually understood. After a very few hours of labor these doubtful cases may, as a rule, be correctly classified. With clinical experience and a habit of close observation one does not need a complete demonstration. Rectal examination shows the behavior of the head in response to uterine contractions. If necessary, the force of contractions may be accentuated by gently increasing pressure with the external hand. If x-ray pictures have not been taken they may be made now in the effort to reach a correct prognosis. If, in these early hours, it is found best to do a cesarean, the increased risk is slight, as has been shown in many instances.

There is one essential factor in the forecast of labor which is always indeterminate. This factor is the probable force and efficiency of uterine contractions. If we have a slight disproportion we can rely on safe instrumental delivery, provided adequate pains produce the necessary moulding and descent of the head. Before labor the force of these pains can only be conjectured. If the patient has led an indolent life and has indulged her appetite, causing excessive gain in weight, the hope of strong pains is not justified. Conversely, the active, energetic woman who takes abundant exercise and who follows directions as to diet may be relied upon for full coöperation. Her pains will be efficient in preparing the way for safe forceps delivery.

To racapitulate: By careful examination before term we can decide as to elective cesarean in all but a small percentage of cases. By close observation and examination in the early phase of labor we can complete our classification sufficiently early to permit safe cesarean if rational indications develop.

Having decided that the patient will have a safe pelvic delivery, it is a serious matter to alter this decision after prolonged labor. We may have a prolonged first stage due to inertia or because the head does not descend. Such delay deprives the woman of rest and sleep and unfits her for effective work in the second stage. If we know that there is no disproportion, the hydrostatic bag is indicated. A few hours will suffice for full dilatation. Version is then indicated as the quickest and easiest method. With full dilatation and membranes intact, version is easy.

Permit a digression to specify that the simple balloon type known as the Braun bag is by far the best. There is an unjust prejudice, in some quarters, against the hydrostatic bag. It is claimed that it displaces the presenting part, that it causes early rupture of the membranes and that it escapes through the cervix before complete dilatation. These objections are valid because they are made by men who use rigid, unyielding bags such as the Voorhees bag. When such a bag is filled with water, which is incompressible, it acts exactly as if it were solid wood. The Braun bag behaves better. It is elastic and is indented by the presenting part, which is seldom displaced. It does not cause premature rupture of membranes. On the contrary, it prevents untimely ruptures by furnishing an elastic cushion against which the membranes rest during a pain. The Braun bag, if properly filled, produces full dilatation, because the driving force from above and the resistance below, increases the equatorial diameter of the bag.

As above stated, version is the best method of completing delivery. In case of slight disproportion, forceps on the after-coming head are more efficient than in vertex presentation. The smaller head diameters first engage and descend through the brim. When arrested by the biparietal diameter the head is mostly below the plane of the superior strait and even a tyro can hardly be wrong in his axis of traction. Goodell developed a clever method of manual extraction of the after-coming head in cases of disproportion, but forceps are much safer.

In consultation we sometimes see cases in which the first stage is complete, the head not engaged, and the prospective mother exhausted by a long hard labor. If the disproportion is marked we are forced to do a cesarean followed by hysterectomy, unless we prefer to take chances with the low cesarean.

If the disproportion is slight we are justified in taking some risks as to the child. If the head can be crowded down, almost effecting engagement, forceps may be given tentative trial. Failing, version usually succeeds if our judgment as to the degree of disproportion is good.

Another difficulty is that peculiar to the woman with excessive lumbar curve. She is likely to be of the broad, heavy type. As a rule the vertex engages in the posterior position. As labor progresses the head assumes the transverse position and descent is arrested, because, in the resolution of the driving force, an undue portion is expended in

forcing the head against the pubes. If the uterus could swing forward through an arc of 20 or 30 degrees, bringing the long axis vertical to the plane of the brim, the head could be driven down on the pelvic floor. This condition is the acid test of forceps proficiency. The blades must be accurately placed to the sides of the head, the tips engaging over the heavy mastoid bosses. One blade lies directly behind the pubes, the other in front of the promontory. The blades must be strong and rigid, as in the Gillespie instrument. The axis of traction must be so far back that often there is the risk of a third degree tear, unless a sort of leverage is utilized by strong downward pressure with a hand applied near the lock. The tyro will fail by attempting premature rotation. He must learn that the difficulty is not due to the posterior position but to the tilt of the pelvis, making the posterior position the only one in which engagement is easy or even possible. He must learn that rotation is possible only after the head is brought to a lower level. Premature attempts will actually lift the head above the pubes.

The handling of these difficult cases presupposes the availability of a competent obstetrician. The lower the grade of skill the more frequently must cesarean be done. The degree of skill requisite for section is elemental in comparison with that necessary in difficult forceps. The general surgeon, if called in, knows only how to cut the Gordian knot, while the capable accoucher may be able to do a lot of untangling.

A generation ago placenta previa was treated by prompt rupture of the membranes followed by Braxton-Hick's version as soon as there was sufficient dilatation. Bleeding was controlled by pressure of the presenting part and later by the thigh and then by the buttocks. This maneuver, in the hands of experts, gave good results. Later the hydrostatic bag was found efficient in many cases. Pelvic delivery involves potential dangers. Manipulation may start violent hemorrhage. Tissues in the lower uterine zone are likely to be honeycombed. This tissue tears easily and is a predisposing factor of hemorrhage and of infection. For these reasons there has been a tendency, in recent years, to resort to secretion, some writers maintaining that it is indicated in all cases. The following quotations give the conservative as well as the more radical attitudes.

Nelms (Am. Jr. Obst. & Gyn., April, 1931) reviews the treatment of placenta previa in the Brooklyn Hospital for ten years. There were 44 cases with four maternal deaths. Five of the 44 were treated by section with no death. He concludes as follows: "We may state that at the Brooklyn the routine procedure in marginal placenta previa cases is first to rupture the membranes and apply a tight abdominal binder. In most cases this will control the hemorrhage and labor will proceed normally. In those that continue bleeding, the vagina is packed or a bag inserted until the cervix is open sufficiently to perform a Braxton-Hick's version, even though this may sacrifice the baby. Transfusion is always used when necessary. We do not feel that cesarean section is indicated in every case of lateral or central previa. The ideal case of placenta previa for cesarean section is, in our opinion, a full term primipara, with a long rigid cervix, with baby alive and viable, and in whom there has not been too much blood loss."

Bill (Am. Jr. Obst. & Gyn., 523—1927) reports 56 cases in the Cleveland Maternity Hospital in the preceding five years. There were 11 cases of podalic version, four of forceps, and one of spontaneous delivery with no death. There were 40 cases of cesarean section with one death. Twelve cases had bled so much as to require transfusion before operation.

Skeel and Jordan (Am. Jr. Obst. & Gyn., Feb., 1932) very recently made a survey of the registration area of Cleveland for a period of five years. The total number of cesarean sections was 1047. Of these 137 were done for placenta previa with a mortality of 5%. They make the following comment: "This, of course, does not represent the best that can be

said for placenta previa with cesarean section. As shown above, our four hospitals in group A had only 3.3% maternal deaths. We concur in Bill's conclusion that cesarean section is the best treatment for placenta previa unless the cervix is well dilated."

While eclampsia is no longer regarded as a surgical condition, it is generally believed that, in a fairly large percentage of cases, it is necessary to terminate the pregnancy before the toxic condition becomes critical. Difference of opinion arises when the method of emptying the uterus must be selected. Many writers believe section to be the best method. It is sometimes stated that there is not enough time for the induction of labor but this is begging the question. In practically all cases there is ample time. The writer has had a fairly large obstetric practice extending over a period of forty years. He has always held that the pregnancy should be terminated if the condition can not be improved by treatment. In all that time he has encountered only one case in his private practice in which there was not time for the induction of labor, and in that case he feels that the fatality was not altogether due to the rapid onset but partly to inadequate judgment.

The teaching as to the necessity for prompt and vigilant treatment in every case of toxemia is not always sufficiently insistent and only too often the treatment is far from ideal. The physician who, in the last third of pregnancy, is alert as to albuminuria, blood pressure, edema and nervous and digestive disturbances will not be found napping until the toxemia has become serious. In the vast majority of cases the urine, alone, furnishes ample warning. If albumen appears the patient should be put to bed on a strict diet and there should be a daily urinalysis.

Toxemia should not be handled by one who is skeptical as to the value of medication and treatment. The carbohydrate deficiency—the tendency to starvation acidosis—must be met and the patient must have abundant sleep and rest. The importance of sleep is recognized by any one who has treated delirium tremens.

If these indications in treatment can not be met it is a sign of weakness or indifference to allow the patient to drift into a condition of peril. If she is getting progressively worse, labor should be induced before it becomes a dangerous resort. When labor is induced there should be free use of morphine. The labor should be terminated as soon as the first stage is complete. And there should be vigilant treatment for several days after delivery.

The physician who follows this line will seldom or never find it necessary to place a handicap on the patient through the remainder of her childbearing years by doing cesarean section, for toxemia.

THE B. AND M. CASE

On July 19, 1932, in the Federal District Court, Baltimore, a flagrantly fraudulent "patent medicine" known as "B. & M." was declared misbranded. This has always been sold as a remedy for such serious conditions as tuberculosis, pneumonia, influenza, and a number of other pathologic states. In the case that has just been decided, the government brought suit against the F. E. Rollins Company, by way of seizure of this firm's goods, of false and fraudulent claims for therapeutic effects made for the preparation of a booklet issued by the company. This booklet was stated to have been prepared and much of it written by Dr. Herbert D. Pease of the Pease Laboratories, New York City, and according to the uncontradicted testimony in the case the firm had paid Pease $15,000, for which he was to revise their literature and give it a "scientific" background. The two outstanding features of the case were, first, the fact that it has been possible for years to sell broadcast to a particular unfortunate group—the tuberculous—a fantastic fraud that does not have even the plausibility of ignorance in its favor, and that it was necessary for the United States government to spend thousands of dollars and expend untold effort to have it legally ruled as a fraud; second, is the outstanding spectacle of a Fellow of the American Medical Association selling his services to the exploiters of what is a self-evident fraud; and, greatest irony of all, for more than a quarter of a century the American Medical Association has been the one agency that has tried to protect the public against just such frauds as B. & M.—Jour. A.M.A., August 13, 1932, p. 578.

FRACTURES OF THE PELVIS *

By E. BENNETTE HENSON, M.D., *Charleston, W. Va.,*
and
RAYMOND D. LUBLIN, M.D., *Hartford, Connecticut*

THE advent of the automobile, modern construction, and coal mining operations have conspired to produce an increasingly large number of crushing injuries to the skull, spine, and pelvis. The treatment of fractures of the skull and spine are today almost routine procedures; operative intervention has been almost eliminated except in special instances, and the tabulated results from widely different clinics and hospitals average pretty nearly the same.

Fractures of the pelvis are not frequent in the experience of most doctors and treatment is less standardized and more uncertain. It has been our aim to standardize treatment in so far as possible or logical, and we are reporting our results with a series of 112 cases of fractured pelvis. These patients have undergone routine treatment, have attended a regular follow up clinic, and 51 have been personally checked up in the past few weeks. Many of the injuries occurred as long back as eight and ten years ago. The majority of patients have come from coal mine accidents, slate falls, or being "rolled between a rib and a mine car." These have all been severe crushes, the soft parts being badly traumatized, the bones usually comminuted, several fractures being the rule. We have not met with a compound fracture of the pelvis. Nineteen per cent had three fractures, sixteen per cent had five fractures, and only eight per cent had single fractures in the pelvis.

As soon as possible after the accident, the safety squad at the coal mine ties the patient down on a stout board about eighteen inches wide and six feet long. The thorax, abdomen, pelvis, both knees, and ankles are bound down to the board. The knees and ankles are bound to each other. Transportation in this position gives a minimum of shock, and though the majority of our patients have come from fifty to eighty miles to the hospital, our mortality has been only twelve per cent. In this are included three patients on whom the post mortem showed ruptured lungs as part of the trauma of general crushes. From this it will be seen that the mortality of the pelvic fractures is not so high as it is generally taken to be.

All patients are treated primraily for shock, and are often sent to bed with no x-ray of the pelvis. It is not necessary to catheterize all patients, for many of them do void if left alone; intravenous saline and glucose are used freely, with morphine. They are moved to the x-ray room only when primary shock is over. Only then is the pelvis strapped with adhesive after padding the trochanters, iliac crests, and sacrum. This is probably just enough to hold fragments in place. No attempt is made at manipulation, no attempt at correction of overriding or malposition as long as the general contour is fair. Displacements of fragments of pubic rami of one or two cms., of portions of the ilium of several cms., even patients with fractures of the pelvis anteriorly and posteriorly, and upward displacement of one-half of the pelvis on the other half have been allowed to heal in without manipulation. Fractures through the sacro-iliac joint involving both sacrum and ilium with displacement, overriding, and even some rotation of fragments have been strapped tightly with adhesive, put to bed, and allowed to heal in situ. Manipulation is reduced to a minimum, and patients are not put under anesthetics for correction of malposition. Traction is not used. Under this outline of rather negative treatment patients have recovered from shock quickly, and pain lasts only about twenty-four hours, when the patient feels so much better than he usually be-

* From Orthopedic Service of Charleston General Hospital, Charleston, West Virginia.

gins to turn about in bed. The average hospital stay for all fractured pelves is twenty-three and one-half days. In checking over end results, we have tried to ascertain (1) the anatomical results, (2) the functional results, (3) the amount of disability, (4) the time out of work, and (5) what residuals may be expected.

(1) Here as is the case elsewhere the same rule holds true, that good functional results may be obtained with imperfect anatomical apposition. No attempt has been made to obtain perfect anatomical apposition. The simple fractures with no displacement of fragments have predominated, but a good number have had displacement of several cms. The shock produced in attempting to reduce these is not warranted. Neither are open operations of much use. The pubic bones have healed up with unusual x-ray findings, sometimes one symphisis riding an inch and a half higher than the other, in several patients the comminution to the pubic bones has been so great that the final result was a bony defect anteriorly, one ilium has been found an inch and a half out of line with the other, but the functional results have been excellent. In every case new bone has been laid down and good union resulted. We have not met with any cases of non-union of the pelvic bones. Since the main purposes of the pelvis are to transmit the force from the femurs to the spinal column and to act as a basin for the abdominal organs, minor irregularities and variations do not "count."

(2) The functional results depend upon certain variables, such as the desire of the patient to get well, the presence or the absence of compensation awards or insurance money, and early mobilization. The average stay in the hospital has been twenty-three and one-half days, which is fairly short considering the time advised by some orthopedists. There is very little if any impairment of motion in the lumbar spine; there is no impairment of motion in the hip joints. The fractures through the acetabula have healed without any excess callus formation about the socket. The sacral fractures have healed up and become very solid, but there seems to be a good deal of actual disability following these and other fractures close to the sacroiliac joint. The fractures of the ilium and ischium have never given any trouble.

(3) The hemorrhage and extravasation of blood into the tissues close to the foramina and the nerves issuing therefrom has caused a good deal of trouble following fractures through the sacrum and through the neighborhood of the sacroiliac joint. The bones heal very well but most of the patients develop a certain amount of neuritis which causes pain about the posterior pelvis, and sometimes anesthesia of one buttock. Sometimes the signs resemble those of tumors of the cauda equina. Interference with the fibers to the rectum and sphincter cause many of these patients to complain of constipation which is almost always dated from the accident.

Where the bones are of great strength a separation of joint surfaces sometimes results rather than a fracture. We have seen only isolated cases where such a separation has occurred without any fracture, but together there have been four cases. The symphisis pubis is most easily separated and often does so during a delivery. Strong as the sacroiliac joints are, and bound together by the most powerful ligaments of the body, they are opened up now and then as the ilium bends outward like a hinge. Considering the frequency of fractures in that region and the relative infrequency of separation of joints, we must consider the ligaments about twenty times as strong as the bones. In no case has there been any instability of the sacroiliac joint.

These fractures in the region of the sacroiliac joints have given rise to the most extensive disability of all the pelvic fractures. The average amount of time in the hospital is thirty days. Walking with crutches in about six weeks is the rule, but most of these patients are permanently incapacitated in that they can not squat down or bend over due to pain in the sacral region. In many cases the percentage of disability amounts to seventy-

five per cent. Fractures through the acetabulum have not caused any permanent disability and those simple ones through the pubic bones have not caused any permanent disability. Those fractures through the pubic bones with displacement of fragments have at times caused some residual soreness, but at no time more than a ten or fifteen per cent disability.

(4) We have always allowed liberal periods of time out of work in pelvic fractures. For simple fractures of the anterior ring we usually allow three months, for those about the acetabulum we have allowed about six months and for those in and about the sacroiliac joint we find that nine months is an average with a much longer period often required, and usually an extensive amount of permanent disability.

(5) The residuals to be expected are few. Quite a number of patients complain of constipation. A majority of those with fractures in and about the sacroiliac joint complain of pain in the region of the sacrum, some have a small region of actual anesthesia over the buttock, and most of the patients have a large degree of real permanent disability in that they are not able to bend down or squat, and require a cane or crutch for very long periods.

We do not believe in prolonged immobilization of pelvic fractures. Aside from the psychological aspect of too long hospitalization, we believe the fractures unite better if the patient is up and about to a certain degree. We have used plaster casts in only twelve per cent of the cases, and as far as possible we avoid them. We believe that patients do better without them.

At times the abdomen has been found very rigid and board-like following a pelvic fracture. Several of these patients have been operated upon, but no ruptured viscus found. This rigidity is very common and takes about twenty-four hours to pass off.

DATA

Total fractures of pelvis	112
Mine injuries	82%
Auto injuries	8%
Other injuries	10%
Single fractures	8%
Three fractures	19%
Five fractures in pelvis	16%
Mortality	12%
Cystotomies	6; or 5%
Ruptured bladders	5; or 4%
Ruptured urethras	3; or 2.5%
Fractures of pubic rami	72%
Fractures of ischium	8%
Fractures of acetabulum	14%
Fractures of ilium	21%
Fractures of sacrum	7%

Average stay in hospital:	Days
All cases	23.5
Fractures sacrum	21
Fractures acetabulum	32
Fractures outer ilium	15
Fractures pubic bones	14
Fractures sacroiliac joint	32

RADIUM

"War has been declared on all patent medicines containing radium. The Federal Trade Commission, the U. S. Food and Drug Administration, state and municipal health agencies, and medical associations are fighting to drive from the market nostrums whose supposed healing properties are credited to radium. Life-giving when administered by experts, death-dealing in the hands of laymen and quacks, radium is the last thing in the world that should be sold over the drug store counter like cough drops and castor oil," Michel Mok maintains in a recent issue of *Popular Science Monthly*.

A terrifying illustration of radium's malignant power in unskilled hands was the tragic fate of the eighteen New Jersey girls who were crippled and killed by radium poisoning contracted while painting luminous watch dials a few years ago.

The campaign to combat quack radium cure-alls has no connection with the use of radium by competent physicians. Radium has proved highly effective in the treatment of certain kinds of cancer. Mr. Mok reports that "10 per cent of all cancer cases at present in the United States now are cured by the radium method, and the sufferings of many more are greatly alleviated."

Today scientists know only too well that radium, the strangest and most potent substance known to man, is a Jekyll-and-Hyde among the elements. It kills as readily as it cures. For this reason the layman is warned against self medication and quack radium cures.—*Hygeia*, October, 1932.

FATIGUE IN SCHOOL CHILDREN *

By J. T. THORNTON, M.D.
Wheeling, W. Va.

TO MANY the subject of fatigue in children may seem trite, uninteresting, and unprofitable. However, a small amount of reflection would convince one that no more important problem confronts the pediatrician. The fundamental faults in the rearing of children that bring about chronic fatigue have a far-reaching effect on the health of the nation and possibly may even menace its very existence. That this is not a remote possibility is evident when we contemplate the records of physical examinations made of recruits in the recent great war. Realization of the fact that a large percentage of young men were incapable of measuring up to the required standards came as a distinct shock. Many of those who passed the routine physical tests later under the strain of actual service showed marked emotional and nervous instability. Who knows when a similar or even greater emergency will confront the nation? Dr. Emerson has said, " physical unfitness in adult life is the result of neglected childhood." Realization of these facts stimulated renewed interest in the problems of child welfare, an interest that culminated in the recent White House Conference.

What is the meaning of the term "chronic fatigue"? The condition is more easily recognized than defined. Fatigue after exertion, physical or mental, or after emotional strain is a normal physiologic process from which the organism reacts completely after a short period of rest. The term "over-fatigue" or "over-tire" would describe more accurately the pathologic state from which prompt recovery after rest does not occur. It is this over-fatigue to which I direct attention.

Chronic fatigue and malnutrition are so intimately associated that a consideration of the one necessarily involves a consideration of the other. A malnourished child usually suffers from fatigue, and a fatigued child is usually malnourished. Chronic fatigue has many and various manifestations. The outstanding symptom of anorexia is due to a food intake entirely inadequate to meet the needs for growth and repair. A vicious circle is created; the small amount of food consumed results in weakness and fatigue, while the greater the fatigue, the less the desire for food. Stationary weight or even loss in weight is the inevitable sequence to diminished food intake.

Other symptoms follow, such as chronic constipation, frequent headaches, and muscular weakness. This latter brings about a posture characterized by round shoulders, prominent abdomen, lordosis, and possibly scoliosis. The child assumes a slouching attitude—the so-called "fatigue posture." Often symptoms of nervous irritability are prominent, such as irregular muscular contractions, restless sleep, insomnia, flushing or pallor of the skin, and cold extremities. There is emotional instability, and from slight or no provocation the child will burst into tears. In school work the child shows inability to concentrate on the subject in hand with resulting low grades on the report card. Too often both teachers and parents attribute these low grades to laziness and lack of effort. Upon the poor child unjustly is inflicted blame or even punishment. To the sensitive nature of childhood nothing is more terrible than unjust blame and punishment. Thus, brooding over the wrongs he suffers from those to whom naturally he should turn for sympathy and encouragement, the child develops an inferiority complex or even becomes an introvert—moody, irritable, unhappy, retiring more and more within himself, bearing a grudge against society that society repays in full measure. This sequence of events follows

* Read before the Section on Pediatrics of the West Virginia State Medical Association at Parkersburg on June 23, 1932.

all too frequently the failure of those in authority to discern the true cause of the child's backwardness, which is chronic fatigue from which the child suffers and for which he is in no manner responsible.

Unfortunately it is not understood generally that the routine physical examination will not disclose chronic fatigue.

Comes one day the child and mother to the doctor's office. The mother asks that the child be examined thoroughly. For why? According to mother the child fails to gain weight, does poorly in school, refuses to eat proper food in sufficient quantity. One or two years ago tonsils and adenoids were removed, but the improvement promised failed to materialize. Certainly if the removal of tonsils and adenoids, that panacea for all the ills of childhood, failed to effect a cure, something really serious must be the matter. The doctor makes a most thorough examination. What does he find? Here is a child, ten per cent or more underweight as compared with the normal child of similar age and height, undernourished, with fatigue posture, with dark circles under the eyes. No other abnormality is disclosed by the examination. The tonsils had not grown back, the teeth are well cared for, the sinuses are clear both by transilluminations and roentgenograms. Likewise x-ray examination of the lungs results only in the report that the pulmonary markings are somewhat coarser than normal. The action of the heart is regular, and no abnormal sounds may be heard. Palpation of the abdomen fails to reveal anything worthy of note. Even the complete blood count, the Wassermann reaction, and the urinalysis elicit only negative information. The eye-doctor finds the vision normal and the ocular movements well performed. Our mother feels reassured since after a most thorough and complete examination no physical abnormality can be discovered. Therefore, a tonic is prescribed, also vitamin B, guaranteed to create an appetite. Mother and child are sent on their way rejoicing, only to be found a few weeks later wending their weary way to another physician. Maybe this time they are more fortunate, the condition of over-fatigue is recognized, and proper treatment instituted.

To the physician who deals much with children the picture thus roughly sketched is sadly familiar. Why the failure to diagnose chronic fatigue? Because diagnosis can be made only by careful scrutiny of every detail of the child's life and not by physical examination alone. Indeed, such examinations, utilizing all modern diagnostic procedures, are desirable and necessary. Physical defects should be discovered and removed, in order that, to use the happy phrase introduced by Emerson, the child may be "free to gain."

What are the causes of chronic fatigue? A long list of such cases might be made up, but time permits that only the most outstanding be touched upon.

We sing of "Home, Sweet Home," but many homes are far from being sweet. The father is stern, demanding implicit obedience and giving in return no interest in the child's problems, no sympathetic help, no expression of approbation for achievements. The mother is irritable and nagging and fails to win the confidence of her children. At every turn the word "don't" is heard. Naturally children regard their parents as superior beings to be imitated and venerated. Sad it is, indeed, when full realization of parental inadequacy bursts upon the child. Then, too, over-indulgent parents develop the "spoiled" child who rules the household. In such homes proper control is not possible. Where an atmosphere of quiet and peace and love prevails together with the exercise of gentle authority in the home, control is easy and effective. Lack of proper home control is one cause contributing to fatigue.

Another cause is improper diet and food habits. Why do so many children have pronounced food dislikes? The average American table provides wholesome food in superabundance, but the child selects for his own consumption a restricted bill of fare resulting in an unbalanced diet. Breakfast can hardly be dignified by the name of meal, consisting usually of a small bowl of uncooked cereal with milk or else bread with butter and jelly,

often swallowed during the walk to school. The noon lunch is hurried in order not to miss any play in the school-yard. A few pennies spent at the neighborhood candy shop give some additional substance. When four o'clock comes, pangs of hunger are relieved by a raid on the icebox which takes away all appetite for the regular evening meal. In many cases, however, there are no particularly faulty habits; the child simply has no appetite and finds it impossible to eat enough food. It should not be forgotten that in many instances anorexia is largely the result of a mental state produced by improper psychological training.

Of faulty health habits the most serious is failure to secure sufficient sleep. How many hours should be allotted to sleep is a matter that has aroused considerable discussion. It seems certain that the younger the child the greater the length of time required for sleep; also that the matter is to a certain extent an individual problem. It is equally certain that the failure to obtain sufficient quiet and restful sleep is bound to give rise to chronic fatigue. In many families neither parents nor children seem to know when to go to bed. Then, too, the ambitious child will rise early in the morning in order to prepare lessons, to practice for music lessons, or to distribute the morning newspaper.

It seems to me that over-strain, particularly mental over-strain, is the cause of over-fatigue that merits most careful consideration. Boards of education, both state and local, have multiplied the number of subjects taught in the schools and the time devoted to each subject, apparently with no regard for the physical well-being of the pupils. They have not understood that such mental over-strain is bound to produce impairment of health and that education without good health is of no avail. There is nothing new in all this. For many years the doctrine of a sound mind in a sound body has been preached, but no heed has been given the preachment. Each generation is wise in its own conceit. I happen to have a book on education by Herbert Spencer, written more than seventy years ago, in which he points out in the educational system of his day exactly the same evils and pleads eloquently for their correction. Certainly his was the voice of one crying in the wilderness, for little heed has been paid to the words of this brilliant philosopher. After all, what is the real object of education and wherein lies its benefits? Hear the answer of Herbert Spencer: "To prepare us for complete living is the function which education has to discharge." It is clear that training of the mind alone does not prepare for complete living, for who can live completely when the body is cursed with ill health? The school should be an institution training the youth of our country so as to bring out the best that is in them, in order that they may live completely, but unfortunately up to the present time it has been their greatest menace. The teachers themselves recognize and deplore these conditions; so also do many mothers and some fathers. So far, little has been done to establish a rational system of education that trains the physical, the mental, and the moral natures with due regard to their relative importance.

However, I feel that a beginning is being made and that the public is being educated to a realization of the crying need for reform. The introduction of the so-called "platoon system" indicates clearly a dissatisfaction with pre-existing systems and augurs well for the future.

In addition to overstrain due to faults in the curriculum of the school, there is the over-strain which comes from activities outside the school. Among such activities may be mentioned daily practice for music lessons, dancing lessons, Scout meetings, meetings of clubs, various social entertainments, rehearsing for theatrical performances, and last but not least the ubiquitous moving picture houses that exercise a baneful influence physically, mentally, and emotionally. For all these things time is necessary, time that should be devoted to play in the open or to sleep.

Likewise it should not be forgotten that, while play and exercise are most necessary and desirable, too much exercise causes an-

other form of over-strain, physical over-strain, that may result in fatigue. We hear often of the child who is never still but on the go constantly. Proper regulation of physical activities is as necessary as regulation of other activities.

It is essential that a fundamental change be made, for the methods at present in vogue, which aim at the correction and prevention of ill-health in school children, fail to strike at the roots of the evil. I refer to health inspection in the school, school lunches, open-air schools, the health cards sent to parents, etc. All these methods may be good in themselves, but it is beginning at the wrong end—treating the symptoms of disease rather than the cause. Even were such measures effective—and they certainly are not effective—only a small number of the over-fatigued and the malnourished could receive the benefits on account of the high cost of such treatment, since, according to Dr. Charles H. Keene, "some twenty to thirty per cent of the children * * * are from seven to ten pounds below normal weight for their age and height." I wonder if you realize an average of 58% of the total taxes collected goes for the support of public schools? To this must be added the maintenance of Catholic parochial schools and various private schools, which care for a considerable proportion of the school population and which have no share in the tax returns. And yet the cry is for more money, in order to acquire more and better buildings and equipment.

How may over-fatigue and malnutrition be prevented? Would that I could give the answer! The combined efforts of the best minds are required to solve this problem. May I be permitted to say that in my opinion this is a problem for the individual states to solve and not one that concerns the Federal Government? The newly-formed Pediatric Section of this society could render no more valuable service to the State of West Virginia than by devoting its attention to the betterment of the physical condition of our school children.

In order to make any progress in this direction it is essential that the public be educated to an appreciation of the importance of chronic fatigue and malnutrition. At the present time there seems to be much interest in child welfare, especially among women. Physicians, especially physicians who pay special attention to children, should be the leaders in disseminating knowledge. Various medical societies, boards of health, school boards, parent-teachers associations, child study clubs, women's clubs, and other civic organizations should coöperate closely in the study of the problems and in devising the best methods of attack.

However, the best place to begin is at the beginning. This means that health instruction should be given in the schools, since it certainly will not be given in the homes. Even the youngest child can be taught practical hygiene in so far as it helps in complete living. They should be so trained in proper health habits that these habits become automatic. Older children, those in the high schools, should receive detailed and prolonged instruction in the care and feeding of children. It is nothing less than criminal that our girls should be allowed to go through school, marry, and become mothers without having received instruction on the proper care of their children. For the majority of women the most important business in life is the propagation and rearing of children, and they enter the business absolutely unprepared. I have often said that there should be no first babies—only second babies. The first baby is the laboratory baby, the baby upon which experiments are tried out, the baby that suffers from mistakes due to ignorance on the part of the mother. While music and art and literature and languages are all desirable acquisitions, no one approaches in importance a knowledge of how to care for children.

May I suggest that this Pediatric Section consider the advisability of introducing such a course into every high school in West Virginia? I firmly believe that this would go far toward the ultimate solution of our problem.

In conclusion I would urge each member of this society to give thoughtful consideration to these matters that have been presented so cursorily and so feebly. Furthermore, I hope that consideration will result in action.

Discussion

DR. A. A. SHAWKEY, Charleston: Dr. Thornton has not left much to add. Commendation and emphasis are all that is left. There are any number of cases of fatigue where the cause is hard to find. Most ills in adult life find their start in early infancy. I would like to repeat a quotation from the "Children's Bureau." During a two-year period 90 per cent of deaths were in children improperly nourished."

Regarding school hours, a great deal of the overtired condition of children is due to misfit of the desks. You can work long and hard under comfortable conditions. In our school equipment there is not as careful selection as there should be. I have observed misfits from beginners to high school grades. I have not met with a single instance where work of the school has been fitted to individual talent of the child. Talented art students must take mathematics and vice versa. I have been called twice in one week to see a child doing poorly in school and losing weight. That school has a candy counter in the cafeteria. The children buy candy instead of a wholesome lunch. The children lost weight, can't study, etc.

Close to my office there is a drug store which is frequented by junior high school children. It takes three men to wait on the children at the candy counter during the noon hour. There are an astonishing number of cases who show poor body mechanics, which is perhaps the most potent cause of fatigue in school children. We should exercise supervision over the sleeping quarters. I have a friend whose child sleeps in a sort of hammock almost doubled up. We should think seriously on some of these points.

DR. C. L. HOLLAND, Fairmont: Dr. Thornton has chosen a very broad subject. I want to compliment him on the manner in which he has covered it. Dr. Shawkey, in his remarks, brought out other points that are ápropos. May I mention still one more? Namely, the strenuosity with which children are induced to attend school, and be on time at every session. By holding up the ideal of a perfect attendance record; by means of "merits" and "demerits," black marks, blue stars, etc., the teacher fosters the child's ambition. This may be very well from the standpoint of her monthly report to her superiors. The high average attendance looks well on paper but is it not true that it results in many children, who are indisposed, being in school when they should be at home, and possibly in bed? I have seen it so many times in my patients. I confess to having seen it in my own family; when a child with coryzae, which may often be an incipient pneumonia, or the forerunner of an otitis, was allowed to attend school against my better judgment. In such circumstances the situation is this: the mother is anxious and suggests the child stay in; he begs and cries. He wants his attendance to be "perfect." Finally the father is appealed to who, after short deliberation, for the sake of peace and quiet, consents, hoping that nothing serious will result. It seems to me that a system might be devised in which each child might be allowed a certain number of days, during the school year, in which he might absent himself without "demerits" or being marked "absent."

Again the "tardy" mark, or "tardy" bell, is rung in to add to the nervous stress, and often worse. In even the best regulated households, things will sometimes be "late," with the average mother who often has too much to do. Getting the child away to school, on time, each morning, requires the expenditure of considerable physical, mental and nervous energy. As for the child, he is often overwrought; he has insufficient time for breakfast, often he goes without; in the hurry he neglects to go to the toilet, thereby fostering an irregular habit, as to the important function of emptying the bowels, but by dint of haste, and taking undue risks with traffic, at street crossings, if he is not run down by something, he will arrive, somewhat disheveled and out of breath, at the door before the "last" bell. Is it any wonder that his nutrition often suffers and his nerves are unstrung? There is, however, another side to this picture which I shall not now try to draw.

One other thing—the matter of compelling a child to spend long, arduous hours over a subject with which it has great difficulty and makes little progress and will probably use but little in every-day life; before it can go on to the study of other things. Take mathematics. The average child will, I believe, get on very well in life without algebra, geometry and trigonometry, unless he engages in an occupation in which higher mathematics must be used. Unless these subjects are readily mastered, and especially if the child be a girl, the time might

better be devoted to languages, history, domestic science, or some related subjects with more profit and the expenditure of less nervous energy. The idea of filling each child into the same mold, as is the tendency in our educational system, is to be strongly deprecated; it is to hinder the development of individuality.

DR. A. GRAEME MITCHELL, Cincinnati: Dr. Thornton presented a classical picture of what we so often see. The entire question of the school system is one in which practicing pediatricians should be interested. Unless care is exercised, the matter of education can be physiologically incorrect. I sometimes wonder, after all, what happens to the many hours of instruction in schools and colleges. Of one thing I am certain, and that is that English is not taught. At least, medical students do not know how to write English, and often speak it with difficulty.

One of our difficulties as practitioners is that we have no control over the educational system. Educators, unless forced, are not always interested in medical questions. I believe that at the present time, however, there is a distinct medical control of many school systems.

The matter of the amount of rest and sleep is an interesting one. Certainly for adults the number of hours of sleep necessary is an individual matter, although it can be based more upon standard requirements in childhood.

I heartily second Dr. Thornton's hope that as a group of physicians you will use your influence to modify anything incorrect in the school system. To put something into a child's head there must be the background of a strong and healthy body. How many schools have proper advice as to what kind of school lunches children should have? Who controls the amount and type of recreation for the group and the individuals of that group? Are you all certain that two sessions of school each day are proper for every child? Is it true that the child is taught too much, or rather is too much under supervision? Will this child be able to amuse and interest himself and work without constant supervision and direction?

DR. R. H. PADEN, Charleston: The subject of fatigue among school children has in recent years been a matter of interest to health authorities. As a means of stimulating the interest of school children in their personal health, the State Department of Health developed the West Virginia 8-Point boy and girl health project for use in the grade schools of the state. An "8-Point" button is awarded to each pupil on condition that the eyes, nose, throat, and teeth are normal or that remedial defects of same have been corrected; that the child has been protected against diphtheria, typhoid fever and smallpox, and the eleven health habits listed for the project have been carried out over a period of at least one semester. Approximately 30,000 of these buttons have been awarded in the two years the project has been used.

Many public health nurses are also engaged in teaching home hygiene and infant care to groups of girls in the grade schools, and the regular Red Cross course in home hygiene and care of the sick to groups of students in the high schools.

These projects should be of value in the prevention and aid in the correction of fatigue in school children.

DR. R. C. HOOD, Clarksburg: The question of the duration of convalescence is an important one. During the war I had the chance of watching cases of disordered action of the heart. These men were gathered together in great groups because they were not able to carry on active duties. The method of sorting was to have them go through standard exercises and test their exercise tolerance. It was interesting to see a man's ability to stand up against these exercises. In the American Army it was found that with the average case of septic sore throat the time between which that man was able to do the standard setting up exercises before coming down with this illness and the ability to do the same exercise after the illness was about seven weeks. If that is true how much more true is it with the child? I believe a lot of these children are taken out of bed long before convalescence is finished.

DR. THORNTON (closing the Discussion): I am glad to know that the Big Sister movement is gaining headway and feel that it is desirable that high school girls should know something about the general care of the sick. However, it seems to me that it is still more important that they should have thorough training in the care and feeding of infants. A large proportion of these girls are potential mothers; their real business in life will be the rearing of children. Yet we have a system of education that permits these young women to enter upon their life's work without prior training for that work. Can you name any other business or profession in which this condition obtains?

I should like to see a course in infant welfare introduced into every high school in the State of West Virginia. In order to secure for our children the necessary reforms in the plan of education now operative in West Virginia, it would be most desirable that one member of the State Board of Education should be a physician equipped with knowledge both of education and also of the care of children.

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THE PEDIATRICIAN AND THE GENERAL PRACTITIONER *

By R. C. HOOD, M.D.
Clarksburg, W. Va.

AT this first meeting of the Pediatric Section of the West Virginia State Medical Association, I wish to thank the program committee for the honor which they have conferred upon me in opening the meeting. At this first meeting a word of history may not be out of place.

A group of us interested in pediatrics appeared before the Council of the West Virginia State Medical Association at White Sulphur Springs in 1930, seeking the formation of a Section on Pediatrics. Encouragement was given the idea by the Council and I was asked to circularize actively those interested and to obtain data for the next meeting, which was held at Clarksburg, in June, 1931. At this informal meeting at Clarksburg we had the great pleasure of having with us Dr. Samuel McClintock Hamill of Philadelphia, who had given a paper at the general session on "The Findings of the White House Conference on Child Care." Dr. Hamill's advice and encouragement at this time were of great value in formulating and organizing the policies of the section. We owe him a deep debt of gratitude and feel that we were most fortunate in having him with us at this time.

The section was organized along identical lines used in other state pediatric sections, which have proven satisfactory in the past. While no constitution or by-laws were adopted at this time, the aims and objects of the section were freely discussed.

Among other important policies two items of outstanding merit seemed to meet with general approval. 1. The development of programs of scientific value to those interested in pediatrics. 2. The cultivation of a better spirit of understanding between the medical profession at large and the specialty of pediatrics. Hope was expressed that the meetings of the section would stimulate worth while contributions to pediatric literature and the exchange of experiences in this specialty.

It was also hoped that the sectional meetings would attract not only those limiting their practice to pediatrics but also physicians in general practice who were interested in this subject. I trust that the program committees in the future will see fit to call upon members of the profession from other specialties which have interesting work in their line related to pediatrics.

The committee has given me the question of the relationship of the pediatrician to the general practitioner for discussion. It is a subject large and interesting, and merits careful and serious attention from many angles.

It needs no argument to maintain that the field of medicine has become so large in detail within the past decade that it can not be covered completely and thoroughly by any one man, however able. This diversification and increase in the complexity of practice has given rise to our present-day specialization. Specialization is not new. From the dawn of medicine the practice of separate acts or systems of medicine has been restricted and at

* Read before the State Medical Association, Section on Pediatrics, Parkersburg, on June 23, 1932.

times highly specialized. The practice of pediatrics, however, in this country is a relatively new development. I feel sure that many of us have an acquaintance or personal memories of some of the pioneers of this specialty. I can never forget, for myself, the reverence and affection given such men as Dr. A. Jacobi, Dr. L. Emmett Holt, or Dr. John Howland.

Pediatrics may best be described as 'the practice of internal medicine restricted to infancy and childhood.' There are other definitions perhaps, but none seem to me to define more clearly the specialty, for the pediatrician should be equipped for the investigation and have a knowledge of the details of treatment of all the problems confronting the patient when especially applied to this age group. That this requires special methods and training every physician has had an ample opportunity to discover in the past. The general practitioner is best defined as a man who is in general practice, ready and willing to give service in all the usual and ordinary medical and surgical procedures except, perhaps, those highly specialized. He has been accurately and honestly described in grateful recognition of his services as "The Family Doctor." Medical statistics confirm the fact that, although they constitute the great majority of the profession at the present time, the number of general practitioners is gradually dwindling. In the present-day organization of medical practice, properly, the reverse should be the case as he should be the keystone of the profession. His general knowledge of the broad field of medicine should make him competent to know the particular needs of the family with which he has contact and the desirability of any special knowledge which is beyond the ken of the family but well known to him. The general practitioner stands in a peculiarly important position in that his general knowledge equips him as a valued advisor and consultant of his patients. As the welfare and rights of the patient should be the first consideration of both general practitioner and consultant, the family doctor should be and usually is best qualified to give advice regarding the need for special observation because of his close contact with the family.

There will naturally be some variation of opinion as to the desirability of pediatric care for the public. This is rightly so, as observation, diagnosis and treatment are often improved in a frank discussion of possibilities. The patient, however, should not have to suffer from a "hang on to the case" attitude from the family medical advisor when a little assistance obtained in consultation might continue and reënforce the confidence of the family in the family doctor.

In some localities the child is claimed by the pediatrician "lock, stock and barrel" as soon as the cord is cut and this care continued without interruption until puberty. Whether this is the most desirable state of affairs from the standpoint of the patient is to be questioned, as the family doctor thereby loses contact with his patient, a thing that should be avoided at all costs if a feeling of confidence is to be encouraged between the general practitioner and his consultants. With the idea in mind of developing this feeling of honest coöperation and mutual confidence it would perhaps be interesting, without becoming too pedantic, to discuss it from two angles: 1. What the pediatrician should expect from the general practitioner, and vice versa. 2. What the general practitioner should expect from the pediatrician.

I hold that the pediatrician should expect with and from the general practitioner that the life and interests of the patient should be paramount; that consultations should not be forced upon the family doctor but that he should have an honest desire for assistance when he is in technical difficulties, and with this a desire to profit by any assistance which he might obtain, from whatever source, that will be of value in saving life or relieving distress.

Fortunately, fee splitting, a major evil in some specialties, is not a spectre to the general practitioner and pediatrician in consultation as the fees are not notoriously large. The problem of fees, I believe, should be ap-

proached in the same manner as the question of medical services. i.e., the honest desire to serve the patient and abide by the recommendation of the family physician in the absence of other reliable data regarding the patient's ability to pay.

There are many other very interesting problems concerning the attitude of the pediatrician or consultant toward the general practitioner, but time does not permit their inclusion here. Let us then turn to the reverse side of the question. What should the general practitioner expect of the pediatrician?

In the same manner as stated above the interest and welfare of the patient should be paramount. There should be no evasion, dilly-dallying or compromise to gain advantage with the family or to establish a reputation. A child's life is often endangered by such tactics and it is often a matter of great tact and diplomacy to know what course to pursue. Honesty and sympathy with the problems of the general practitioner are most essential. Due credit must be given to his skill, but the family doctor should expect more in the way of special, technical ability, training and experience from his consultant than he is able to supply himself. The pediatrician should not only have experience but an understanding of the essential details involved when applied to the particular problem of the patient at hand. An appreciation of the difficulties faced by the general practitioner in regard to heredity and past history combined with a knowledge of the intelligence of the parents and an assurance of their confidence are most essential if the consultation is to be of the greatest benefit to the child. The consultant must develop a sympathetic approach and gain the coöperation of both the patient and family physician rapidly if he is to achieve the best results.

The completion of the formal consultation is no excuse for a lack of interest by the consultant. The welfare of the patient should transcend all other interests and a close contact with the family doctor in following the progress of the patient often means the difference between success and failure.

When a patient is referred by the family doctor from a distance without the formality of a meeting between the consultants, the possibilities for misunderstandings are greatly increased unless there is a feeling of mutual respect and confidence. It is very easy for a consultant by innuendo or indirect suggestion to either reënforce the confidence the family has in the family doctor or destroy it completely. The latter tactics are especially to be condemned, as the advantage gained with the patient is temporary and often serves to destroy the confidence not only in the general practitioner but in the consultant also. Because of this opportunity for misunderstanding it has always seemed to be a good practice to write or telephone the family doctor as completely and frankly as possible at once regarding the patient. This is not only proper but serves to connect the opinions of the consultants in a manner best calculated to result in the greatest benefit to the patient.

With the idea of developing some of the fields of contact between the general practitioner and the pediatrician and of the problems encountered in consultation, I should like to take a few moments in pointing out wherein the well trained pediatrician can be of distinct value in assisting the family doctor in diagnosis and treatment. This does not pretend to be a complete list of the desirable qualifications of a well trained pediatrician, but aims only to give some of those problems frequently met in pediatric consultations and peculiar to the diseases of infancy and childhood:

1. Eczemas—infantile type—protein testing to determine the etiological agent and treatment. Skin disturbances common to infancy. Schick, Dick and tuberculin tests. The use and abuse of physio-therapy and x-ray.

2. Otitis media—the relative frequency in infancy as a cause of fevers of unknown origin and as a complication in contagious disease.

3. Retropharyngeal absoess — commonly mistaken for laryngeal diphtheria or foreign bodies in the larynx or lungs.

4. Enlarged tracheobronchial glands al-

lied to the above group. Enlarged thymus and status lymphaticus—a puzzling condition in the new born.

5. Congenital malformations of the viscera, congenital heart disease with differential diagnosis from acquired or infectious cardiac conditions.

6. Mongolism and cretinism.

7. Pylorospasm and pyloric stenosis—commonly overlooked in feeding disturbances, often requiring great judgment in handling and the urgency of surgery as a relief.

8. Rumination—a comparatively rare but often fatal technical feeding problem with good results when recognized early and properly treated.

9. Pyelitis, or better called pyuria. A great field for careful diagnosis in the fevers of unknown origin, especially in female infants.

10. Blood diseases. Leukemias, anemias and more commonly lead poisoning from eating paint.

11. Nutritional diseases. Xeropthalmia, rickets, scurvy, pellagra and perhaps acrodynia. The special problem of the diabetic child.

12. Neurological lesions. Birth injuries —treatment and prognosis. Tetany. The differentiation of the metabolic and hereditary disturbances. The atrophies and dystrophies—acute poliomyelitis. Brain tumors with their bizzare manifestations.

13. Orthopedic conditions. Deformities, infections and congenital defects.

14. Infections: respiratory, intestinal and meningeal with specific treatment. The use and abuse of prophylactic and therapeutic sera.

15. Feeding problems: Colic. The breast milk supply. Weaning. The difference between fresh and canned milk feedings and their relative values.

16. Acute intestinal intoxication or so-called "cholera infantum" with its specific treatment. The dysenteries. Acute intussusception.

17. Behavior disturbances with the management of the neurotic child.

18. Tuberculosis and congenital syphilis with the details of treatment.

19. The value and interpretation of laboratory procedures.

This does not pretend to be a complete list of pediatric problems or an assumption that the pediatrician has a monopoly of the knowledge concerning these conditions, but it will serve to call to the attention of the general practitioner that there is available for his consideration in the services of a well trained pediatrician, agencies which are distinct in value in assisting in the diagnosis and treatment, and in continuing the confidence which the family has in his judgment, developed through years of contact.

The pediatrician should be willing and able to offer to the general practitioner the assistance which is peculiarly fitted to the disturbances of the infant or child, and often constitute life saving measures. One peculiarity of the diseases of children is the very striking fact that there is little chronicity. The patient usually either dies or improves rapidly. For this reason the pediatrician should be capable and willing to assist in the solution of the problem at hand without delay or experimentation. If the sick child can be helped by the single attention of the family doctor in a difficult situation, how much more benefit might be derived from the combined resources of the general practitioner with his well developed knowledge of the heredity, environment and past history combined with the special technical knowledge the pediatrician has to offer.

Discussion

DR. A. GRAEME MITCHELL, Cincinnati: I would like to predict that if this Section continues to have papers of the type of Dr. Hood's it is certainly going to be a success. I have been told that it is proper to start a discussion by being critical, but I find nothing to criticize in this paper. The only suggestion I could have is that Dr. Hood read his paper before a large group of practitioners. Even if they do not entirely agree with him, they will know that pediatricians are interested in trying to solve the problems of a liason between the different groups. Dr. Hood has said, very properly, that a pediatrician is not a specialist in the sense of other

specialists; he is nothing more or less than a good doctor who is working with children. Because of his specialized training and knowledge he can do a better job for the child than someone who lacks such a background. There are many who still believe that pediatricians are not needed to any great extent. In England the pediatricians are purely consultants, and not practitioners. There are probably fewer pediatricians in England than in any single state in this country. The different status of pediatrics in this country has been a great stimulant to the accomplishments in pediatric knowledge. The place of pediatrics in medical schools has been accomplished largely by pediatricians, although not without opposition. You all know, too, that Jacobi, who is known as the father of pediatrics in this country, did not believe that the pediatrician need confine himself to any age group, but that pediatrics was simply a branch or phase of internal medicine.

There is today a tendency for the pediatrician to treat the older age groups. The adolescent probably belongs more distinctly to the pediatrician than to the internist. Dr. Todd, of Western Research University, who is an anatomist, has reached the conclusion from his studies on the growth and development that the adolescent is a pediatric problem. Someone must give special attention to the problems of adolescents, and probably the pediatrician is better qualified to do this than anyone else.

Dr. Hood mentioned one of the functions of pediatricians, namely, mental hygiene. The psychiatrists have stimulated the interest in this, and the pediatricians have been slow to enter the field. There are two points of view in this matter. One is that there is no particular problem, and that a pediatrician must be a psychiatrist to a certain extent. The other is that something must be done immediately about the situation. It seems to me that the solution is the pediatric-psychiatrist or the psychiatric-pediatrician who should handle a certain small group of the more difficult cases. Every pediatrician should be a psychiatrist, and should be constantly on the alert to help in problems of mental hygiene. The physician who simply treats the child for umbilical hernia or rickets or malnutrition, and neglects to study the whole problem, is certainly doing only part of his job. In a discussion of this matter on a previous occasion, I made the remark that the pediatrician was capable of doing 80 to 90 per cent of the psychiatric work necessary, since many of the problems were a matter of simple adjustment. In other words, we need to take almost all the children we see for a ride in a Ford car which we know how to drive, and not in a Cadillac which we do not know how to drive.

The pediatrician works harder and gets less for it than any other physician. There must be coöperation between the general practitioner and the pediatrician. The consultant must not be called simply to help in signing a death certificate or because the family is dissatisfied. On the other hand, the consultant must do everything he can to support the general practitioner. The relationship must always be evolved from the standpoint of the patient—he is, after all, the first consideration.

The question of diet is very important, and must be intelligently handled. Many of our dictates concerning diets are simply carried over from one generation to another. An illustration is the feeding of bananas. Not many years ago the giving of bananas to a small child was considered little short of criminal. Now they are considered, and correctly so, distinctly digestible.

I wish you all in this Section a very great deal of pleasure and happiness in discussing your problems together.

DR. R. E. SLOAN, Huntington: I feel that although we are specialists we really are general practitioners. Although we do considerable consultation work, our biggest work is as a family physician. We have to deal with the family physician who is a general practitioner. At times he is taking care of the older children and we are taking care of the younger ones. We have to be very careful in our consideration of him. However, I feel that as we have special training that the general practitioner does not have, the child is usually better taken care of by a pediatrician than by a general practitioner. If we make our fee reasonable and consultations with general practitioners agreeable, this may accomplish much.

DR. W. D. FITZHUGH, McComas: I feel as a general practitioner that there is a great demand for the specialty of pediatrics. What we need between ourselves is coöperation. The important point is the welfare of the child. We sometimes lose sight of that fact. If what our brother pediatrician has done is for the general good of the patient we should overlook our personal feelings with regard to him. While we haven't had any special disagreements, yet it seems that we get a little selfish at times. If we are going to go on the basis of the Great Physician we must not let our-

selves become selfish. A pediatrician is a general practitioner who limits himself to children.

I think there should be an age limit. While I don't know what that age limit should be I regard it as important. Most hospitals make the limit twelve. I think twelve to eighteen is a most important time of a child's life and is apt to be neglected.

DR. A. A. SHAWKEY, Charleston: There are so many points in the subject to be discussed that I think we should ask Dr. Hood to give the same discussion next year or turn the whole program over to the discussion. I think we can say that most men in the profession are honest. We are all interested in the well-being of the patient. Some of us hold on to our cases too long because we are anxious to see if we can cure them. Suppose you are called in on a consultation; then suppose the physician has made a mistake. Shall we miscarry ethics, or compromise? Shall we do the best for the individual child and lose the friendship of the physician? Is it better to save one child and lose the chance of future opportunities or shall we take care of the physician and perhaps sacrifice the child? If we are not careful in our conduct toward these friends who call us we are trampling on ethics. It is mighty hard to know what is the best thing to do. If we are not ethical we are endangering the usefulness of pediatrics. Some men say, "Damn the pediatricians. They take every case we call them in on." Again you may be called into consultation and the case improves although a mistake has been made. Then the parents ask you to take charge of the case. You can't do it ethically. This is one of the thousands of knotty problems. Another is the scale of fees. If we put our fees too low other men won't like it. If we put them too high the patient won't like it. You have got to cut your cloth to suit the financial pattern of the patient.

DR. M. F. PETERSEN, Charleston: It is a source of pleasure to me to see this group a small, intimate one where you can speak your minds freely, and need no preparation of a formal group of ideas.

The problem which Dr. Hood discussed has been turned over in my mind all through the winter, because I knew he would discuss it and do it well and I wanted to add my ideas and agree with those which I thought correct. His attitude is that the general practitioner and pediatrician occupy definite places in the field of medicine. The astoundingly long list of difficult and special problems which he named in his paper make you realize those which we see often and which the general practitioner sees less often. It is necessary that there be a group of men who limit their specialty to children. They have to keep on their toes in order to detect those happenings peculiar to children such as lead poisoning, etc. The pediatrician can see these easier than the general practitioner who sees old people and who may find it impossible to carry in his mind these unusual and unexpected problems which we find as pediatricians. I believe the only basis for smooth and frictionless working together is one of trust. A pediatrician who does not have the coöperation of the group of doctors with whom he works is very unfortunate. He can not do good work, and I think everyone who is practicing pediatrics should strive as his first aim in the development of his practice to build up and maintain such friendship, such feeling of confidence between himself and the men he has to meet in his practice. There can be no rules set down. There are many things which will appear to have been done unfairly and wrongly. We are not dealing with a broken automobile but with a patient's life. After all, the patient pays the bill and he deserves your first consideration. The question of fees, I think, should be worked out in this way. We are general practioners limiting ourselves to children. The feeling that we are specialists has built up the feeling that we charge large fees. That is in a way good, but it also has a bad influence. Nine-tenths of our work consists of routine care of Mary's and John's ills. We are the family physician to that child. Our fees should be made moderate so they are more in line with the fees charged by general practitioners in the town in order that we may occupy a place with the general practitioner in the town and do our share in helping these children.

DR. HOOD (closing the Discussion): I want to thank you all for having entered into the discussion. Many things have been brought out. Dr. Mitchell hit the nail on the head in suggesting that the paper be read before general practioners. This paper was designed for the purpose of obtaining coöperation between pediatricians and general practitioners in the hope that some general practitioners would read it. The list that I gave seemed long but it did not cover all possible avenues of contact. It was to get the idea over that there are problems in which we can get together. If we strive for the benefit of the patient we can not go wrong. Shall we do the right thing by the child or lose the friendship of the physician? If we are honest and sincere he will come back to us.

DIPHTHERIA IMMUNIZATION *

By W. BYRD HUNTER, M. D.
Huntington, W. Va.

IT IS NOT my intention to dwell upon the value of active immunization as a means of lessening morbidity and mortality, from diphtheria. This has been done by the fine work of Park, Zingher, and many others in this, and other, countries; but I do want to take this opportunity to make a plea for the more general use of diphtheria prevention.

According to state health reports, the number of deaths from diphtheria increased during 1931, but this increase was in counties in which the immunization program had not been carried out. They, also, point to the significant fact that 115 of the 164 deaths were in children under six years of age, showing the importance of early immunization.

I think it is generally conceded that the child is more susceptible to diphtheria between the ages of six months and two years; it has lost the immunity, carried over from the mother, and has not developed any of its own. This, then, is the time children should be immunized and not after they enter school.

Our state health reports, also, show that we have the unenviable reputation of leading the country in deaths from diphtheria in children under two years old.

As Dr. Mitchell says, "In childhood the practice of preventive medicine produces better results than at any other time of life, and if preventive measures now known were universally applied much disease would not occur." There is absolutely no excuse for the 164 deaths from diphtheria during 1931. What are we pediatricians going to do about it?

I think it is very unfair to the physician, especially those of us who have prepared ourselves to do this work, and rely upon it for a livelihood, to have the state, county, or city government do these immunizations, in a wholesale manner, to the financially-able public; but unless we get busy, and do it ourselves, we can not expect public health officials to neglect such an important health measure.

The administration of diphtheria toxin-antitoxin, or toxoid, is a simple, safe, and inexpensive procedure which completely immunizes 85 to 90 per cent of cases, and should be given between the ages of six months and two years when the child is most suspectible, and, strangely, has less reaction. These should be checked by the Schick test four to six months later.

Of 260 immunizations, 166 returned for the test. Of this number 132, or 85 per cent, were negative, and 24, or 15 per cent, were positive or suspicious.

We have two classes of patients: first, the modern, thinking, mother who brings her child in at regular intervals to have its feeding, and other health measures, supervised to keep it well—in other words—preventive treatment. When diphtheria immunization is suggested at the six months visit, and explained as a preventive measure, this mother already knows about it and is not only willing but anxious to have it done. Of 260 immunizations, 240 belonged to this class. Then there is the second class of mother who lets grandmother, or the negihbors, treat the child and brings it in only when it is sick for curative measures. When diphtheria immunization is suggested to this mother, she invariably asks if there is much diphtheria around, and when one tries to explain that this should be done regardless of the prevalence of diphtheria, she is usually afraid of "shots" and "sereums." It is this class of people we ought to reach and educate to the importance of all preventive measures including diphtheria immunization.

* Read before the Section on Pediatrics of the West Virginia State Medical Association at Parkersburg on June 23, 1932.

I like an article by Schwartz and Janney, of Milwaukee, in which they say, "To eradicate diphtheria completely, immunization must become as routine a medical practice for the preschool child as is the administration of orange juice a dietetic measure for the infant." How can this be done?

1. An educational campaign carried on by the state, county, and city together with medical societies, schools, insurance companies, clubs, etc.

2. Free immunization for every child whose parents are unable to pay.

3. Every physician should "preach" periodic health examinations, and preventive medicine, especially immunization in children.

4. A placard in the reception room, over a list of immunized patients, asking the question: "Has your child been immunized against diphtheria?" Make it a routine question on your history sheet, and keep on reminding the mother at each visit. Take time to explain that it is a preventive measure and the best investment she could make for her child.

5. Display in reception room of pertinent articles in *Hygeia* and other health journals.

6. A certificate of immunization for every child immunized. Something he will be proud of and show his teachers and playmates. These would probably be supplied by biological houses or the State Health Department.

7. With my statements, I have enclosed little booklets stating office hours, fees, etc., together with the importance of preventive medicine, immunizations, etc.

8. In cases of simple tonsillitis I make it a point to remind the parent that the child has been immunized against diphtheria, and point out that the child is just as likely to have diphtheria as other simple nose and throat infections. Very often the parent remarks that it is a comfortable feeling to know that the child won't have diphtheria, and often there are neighborhood mothers who profit by the conversation.

9. Never allow a patient to leave your office without an appointment to return. This may be one week, one month, or one year, but impress upon the mother that the child should be seen even though she sees nothing wrong.

10. And, finally, a public health law requiring a certificate of successful immunization against diphtheria, and small-pox, for admission to kindergarten and school.

Just a word about immunizing agents. For three years, from 1926 to 1929, I used toxin-antitoxin, prepared from the horse, by the New York State Board of Health, with slight reactions and negative Schick in 90 per cent of cases.

During 1929 and 1930, I used toxin-antitoxin, prepared from the goat, or sheep, by the various biological houses. With these I had more reaction and a lesser percentage of negative Schicks.

During the past year I have been using toxoid without any severe reactions and, I think, a quicker immunity and, so far, no positive Schicks.

Toxoid, by being administered in two doses one month apart, fits in better with the routine monthly visit, and is less expensive.

Heretofore I have been Schick testing once a year, usually around a holiday. A day is set aside, the parent notified by a postal card, and some simple, inexpensive gift, such as a valentine or easter card, is given to each child. Some of them are afraid, and cry, but when they return for the reading, and are not hurt, soon forget about the needle and everything is all right again.

Discussion

Dr. George M. Lyon, Huntington: In discussing Dr. Hunter's paper I want to say why we thought he ought to be on the program. No one does better immunization work than he. He has the ability and the knack of getting patients to return better than anyone I know of. If his methods were used by all of us, the whole country would have little to worry about in the way of diphtheria. One of the greatest difficulties I encounter in preventive work is getting the parents to consent to immunization. I am not able to sell a sufficient percentage of them on the idea of immunization. Appropriate publicity in the newspapers, preventive measures openly advocated and urged by the state and local health departments, and by the medical societies and the advocacy of compulsory immunization before admission to schools, can help much

in creating a proper and receptive attitude among negligent physicians and the laity. The recommendations of the White House Conference should be continually held before the public.

A factor of great importance in preventive work is that intangible, indefinable (we call it personality) which makes it possible for some to "sell" or convince others. It is effective in all phases of pediatrics, and should be cultivated in the art of practice. Probably there is no place in pediatrics from which so much suffering and death may come as from lack of immunization.

With regard to Schick testing, if I have done the Schick test recently I feel safe in not giving antitoxin. When it comes to taking an opinion on a Schick test, shall we accept those interpretations done by others whom we do not know or can not communicate with? We may sometime have to have the Health Department say who can and who can not do acceptable tests. One has to have training because it can be pretty tricky with pseudoreactions in older children. Dr. Mitchell's suggestion is that possibly the thing we will come to will be giving toxoid at six months and repeating immunization as the child enters school. That, of course, would be a very practical way of handling the situation in communities where reasonably safe Schick testing can not be done.

The work of Vaughan and others in Detroit is encouraging and presents a fundamentally good and workable plan. I feel, however, we should not expect men in medicine to have to take too small a fee for preventive service. I spend more time in persuading the patients to permit immunization than in giving them. To take too small a fee would, under the present system, be unfair. I want to add to what Dr. Hunter has said an emphasis on taking time to talk to people about this and on trying to sell them on the idea. From close observation, I can say that Dr. Hunter has done a real service for West Virginia.

DR. A. A. SHAWKEY, Charleston: I am inclined to be just a little critical on this one point from my own experience. As I analyze the situation I see that possibly a little more discrimination might be exercised in regard to persons given medical service. In the last two or three years I find many people of good means saying that they have had their children immunized by the school health department, the city health department, the county health unit, and even the state hygienic laboratory. I don't think it fair for physicians to pay taxes to provide free immunization for people who are able to pay for it. I don't think free medical service should be provided for those who are able to pay any more than free food or free clothing.

DR. DAVID LITTLEJOHN, Charleston: At the State Health Department we have been very much interested and pleased with the work in immunization which has been done by Dr. Hunter. Our hope is that this type of work will rapidly extend, not only to the pediatricians of the state, but to every practicing physician in the state. When that time comes, the educational work of the health departments will have accomplished its purpose and we can withdraw from the field of immunization. The objectives of the health departments in carrying on the intensive work of immunization have been two. (1) The protection of the largest number in the shortest possible time. (2) The education of the medical profession and the public as to the safety and reliability of this method of prevention.

It has certainly been very gratifying to those engaged in public health work to see the prominence given to the preventive side of medical practice at this meeting of the State Medical Association. It augurs well for the speedy coming of the time hoped for by official health workers when that part of the practice of preventive medicine, which deals with the individual, will be assumed by the medical profession, leaving the part which deals with groups or communities to the official health agencies. It will only be when such coöperative effort is put into operation that the most complete and effective program of prevention can be satisfactorily carried out.

In regard to the reading of the Schick test, we would advise those who have difficulty in doing this correctly, to wait until the third or fourth day before reading it. By this delay, it allows time for the disappearance of any simple protein reaction, and in positive Schick tests, only the characteristic skin reaction remains.

Dr. Hunter's report shows a considerably higher percentage of immunity following the use of toxoid than where toxin-antitoxin was used. The toxoid immunizations will average from 90 to 95 per cent, while toxin-antitoxin immunization will only average from 65 to 85 per cent. We should bear in mind, however, that toxoid is best used in children under six years of age. In older children reactions sometimes occur. In the older age group, we would still recommend the use of toxin-antitoxin. Toxoid gives the highest per cent of immunity when administered at an interval of 21 to 28 days.

CRANIOCEREBRAL INJURIES *

By W. V. WILKERSON, A.B., M.Sc., M.D.
Montgomery, W. Va.

IT IS recognized that it is a departure from the usual for an internist to be presenting a paper upon this subject, one ordinarily regarded as within the province of the surgeon. My explanation for this deviation from generally accepted custom, if indeed, any explanation is required, is that a more adequate appreciation of the fundamental physiological and pathological processes involved is serving to place increasing emphasis upon the strictly neurological aspects of the problems encountered in contrast to the mechanical factors which are, of course, surgical in nature.

At the Coal Valley Hospital, with which I am associated, it is the usual practice for the management of these patients to be a joint function of the surgeon and the internist. As a result of this policy I have been in intimate contact with 176 patients of this type during the past two years. The severity of the injuries has ranged from relatively mild to quite severe.

My attention was first focused upon this type of injury during adolescence when a neighbor, in an altercation, received a severe head injury. This young man hovered between life and death for days, being either unconscious or semiconscious throughout the greater portion of this time. Because of the prolonged period of unconsciousness and stupor one heard over and over again the statement: "He certainly must have a BADLY FRACTURED SKULL to be incapacitated for so long." This patient ultimately made a satisfactory physical recovery but those of us who knew him well were painfully aware of definite personality changes and associated mental and emotional instability.

In the years that have followed I have heard many similar expressions of opinion relative to the serious nature of "FRACTURES OF THE SKULL," these statements coming both from laymen and physicians.

Remembering the relatively satisfactory results obtained in fractures elsewhere in the body, particularly those of the long bones, one is led to wonder what peculiar property or properties the bones of the skull possess, which make a "fracture," often an apparently insignificant one, a matter of such dire consequence. It is, of course, obvious that other factors must be concerned, particularly the intracranial structures. This opinion has been amply confirmed by many of our leading neuro-surgeons whose clinical and experimental studies seem to warrant the statement THAT BONY DAMAGE WHICH DOES NOT PRODUCE MECHANICAL INTERFERENCE OR OPEN UP NEW AVENUES FOR INFECTION, MAY, FOR ALL PRACTICAL PURPOSES, BE MORE OR LESS DISREGARDED.

These studies also indicate that the degree of injury to the bones of the skull is in no sense an accurate index to the severity of the associated intracranial damage, an opinion that has been thoroughly confirmed in our series of cases. As a matter of fact the preparation of this paper was stimulated by our observation of the unfavorable end results in the so-called minor head injury case, that is, the case without demonstrable fractures.

We believe it has been adequately proven that the important phases of these head injury problems center around the extent of DAMAGE TO THE INTRACRANIAL STRUCTURE. It is unfortunate that we do not have in our armamentarium any direct method for estimating the exact nature or the extent of damage to these structures but are forced to secure these data by indirect methods through analysis of the information elicited in the history and the facts obtained upon general and special physical examination.

* Read before the West Virginia State Medical Association at Parkersburg on June 21, 1932.

In obtaining the history, frequently from others who are able to supply some part of all of the desired information, it is well to estimate the force of the traumatizing agent as suggested from the type of weapon, speed of vehicle, position of patient at the time of injury, distance of fall, etc. The presence or absence of unconsciousness and its duration should be ascertained, always keeping in mind the meningeal syndrome, that is unconsciousness followed by a period of lucidity which in turn is followed by a return of unconsciousness. Such a train of symptoms usually points to an extradural hemorrhage and is a definite indication for surgical interference as soon as the general condition of the patient will permit and as soon as analysis of the available data has localized the hemorrhage, although it is undoubtedly more conservative to do an occasional bilateral operation than to wait for localizing signs to appear when confronted with such a history. Fortunately early localization is usually a relatively easy matter.

In making the physical examination it is of the utmost importance that we be alert for evidence of shock for, unless shock is recognized and treated promptly, we are likely to do our patient considerable harm; IN FACT, WE MAY EVEN SACRIFICE HIS LIFE, by authorizing transportation, operation, or even too extensive a physical examination at a time when such a procedure CONSTITUTES A VERY REAL DANGER. At the proper time a detailed examination should be done and should include an exploration of any scalp wounds by the surgeon, not by an intern, and a search for depressions of the skull and for evidence of fractures at the base as indicated by subconjunctival hemorrhages, pulsating exophthalmos, the escape of blood, brain substance or cerebrospinal fluid from the ears, nose, or mouth, and ecchymosis, or edema about the mastoid process which indicates local fracture. The comparative size and reaction of the pupils should also be carefully noted.

After the physical examination the patient is usually subjected to a series of x-ray examinations. If the films fail to reveal the presence of a fracture or fractures of the skull it is, unfortunately, the tendency in a regrettably high percentage of cases to regard such an injury as a minor one and allow the patient to return home, possibly, even probably, to develop the sequelae to be discussed later.

Sharpe, of New York, studied the end results of patients with craniocerebral injuries hospitalized in three large New York hospitals during a ten-year period, the study being done two years after the end of this decade. He was able to find only 34 per cent of these patients, but of this 34 per cent there were 67 per cent who were complaining of headache, dizziness, weakness, early fatigue, epileptiform seizures, etc., obvious late results, at least in most instances, of their antecedent trauma. It is worthy of notice that a large percentage of these patients had been discharged from the hospital as "well," "cured" or "improved." Fractures, where present, had long since healed, but the symptoms continued on and on.

We now recognize that the characteristic early signs and symptoms are dependent upon compression of the brain substance, particularly the medulla. At times this compression is direct, being the result of intracranial hematomata or of depression of a portion of the skull, but in most cases it is indirect, being secondary to increased intracranial pressure resulting from reactionary changes in the damaged brain substance with the development of edema, or from interference with the circulation of the cerebrospinal fluid, which in many instances is caused by a diffuse layer of blood over the cortex.

Because of the importance of the mechanism concerned in this indirect production of an increased intracranial pressure it is thought desirable to review, very briefly, the pathological physiology involved.

Since the skull and dura are relatively inelastic structures it is evident that any increase in the bulk of the brain will tend to force the cerebrospinal fluid into the subarachnoid spaces around the cord. This is a safety mechanism but the limited capacity of this reservoir renders it ineffective and there soon

develops an increase in the pressure of the fluid.

If the ostia of the supra-cortical veins and the Pacchionian bodies remain normal this increased pressure should accelerate the excretion of the cerebrospinal fluid which would tend to reduce the increase in pressure. This probably does occur to some extent but in many instances there is a diffuse layer of blood over the cortex which interferes with the effectiveness of this compensatory factor and the increased pressure continues to develop without even this feeble aid to control it.

At the same time that the cerebrospinal fluid is being forced from the cranial cavity the venous blood is also being forced out by way of the venous sinuses into the general circulation. There is also increased resistance to the inflow of arterial blood so that we have circulatory stasis with the production of "acid bodies" and increasing edema of the brain WHICH IN TURN RAISES THE CEREBROSPINAL FLUID PRESSURE TO STILL HIGHER LEVELS. As this vicious cycle continues we get increasing evidence of medullary compression manifested by a slow pulse and a slow respiratory rate. If the trauma has been adequate to produce sufficient reactionary changes in the brain and nothing is done to relieve the increasing pressure the signs of medullary compression are supplanted by those of medullary edema, that is, increased pulse rate, increased respiratory rate, increased blood pressure, and elevation of temperature.

Treatment.—Until comparatively recently it was the more or less accepted procedure to do a decompression operation upon this type of patient. The results obtained were not at all gratifying and the present tendency is to reserve operation for a rather small percentage of cases where surgery appears to be the most conservative and most promising therapeutic measure. At our hospital we resort to surgical methods for the correction of mechanical factors producing pressure, for the removal of intracranial hematomata and for relief of increased pressure where non-surgical measures fail.

Since you are already familiar with the details of the surgical measures usually employed and because of the limitations upon my time I shall confine my remarks on treatment to the non-surgical measures.

Remembering that cerebral edema and an associated increased intracranial pressure are the major problems in a large percentage of these cases it follows, logically, that any measure which would afford relief from this increased pressure should exert a beneficial effect upon the course of our patient.

In 1919 Weed and McKibben demonstrated that it was possible to alter the bulk of the brain by the use of hypotonic and hypertonic solutions by vein, their original work, naturally, being carried out on experimental animals.

These observations offered a means of reducing the size of the edematous brain and, therefore, of lowering increased intracranial pressure. Hypertonic sodium chloride solutions were first used, reinforced by a high chloride diet. The immediate results were encouraging, but it was found that the excess of the chloride in the blood stream causes an increased deposition of the salt in the tissues. The kidneys tend to eliminate the excess of the sodium chloride in the blood stream so that after a time it was not uncommon for the concentration of chloride in the tissues to exceed that in the blood and CAUSE A REVERSAL IN THE DIRECTION OF FLOW OF THE FLUIDS WITH A RESULTING SECONDARY WAVE OF EDEMA.

Concentrated solutions of dextrose intravenously have been found to exert the same beneficial effects as the hypertonic saline solution without the latter development of a secondary wave of edema. We are giving 50 c.c. of 50 per cent dextrose three times a day for a week or more, adding insulin if glycosuria develops. This has been found fairly effective in promoting the flow of fluid from the edematous brain tissue into the vascular stream but the effect is transient if not supported by other measures.

The use of large doses of magnesium sulphate prolongs the beneficial effects of the

dextrose by removing fluid from the vascular stream, thus providing space for receiving additional fluid from the edematous brain tissue. It is apparent, then, that the combined use of concentrated dextros solutions and of large and repeated doses of magnesium sulphate affords a means of removing the edematous fluid from the brain into the vascular stream and from there into the bowel where it is carried outside the body, thus permanently disposing of such fluid.

If the above measures are further supported by a dry diet and limitation of fluids to 800 c.c. per day we have a simple and effective non-surgical means of controlling the increased pressure.

Another means of reducing the intracranial pressure is the spinal puncture. Unsupported, the effect is transient but in combination with the above measures it is a useful and usually simple procedure which we believe has a definite place in the handling of the head-injury case.

I am fully aware of the controversy which has arisen concerning the use of the spinal puncture. Dandy, of Johns Hopkins, states that "I feel quite strongly that a lumbar puncture does no good and frequently does much harm in head injuries," while Frazier, at the University of Pennsylvania, states that "We use it always in the initial examination and once or twice a day after in cases where the patient has to be treated."

It is our practice to do a spinal puncture sometime after the patient has recovered from shock, usually the day following injury. It is obvious that a spinal puncture performed when the patient is in shock and the circulation feeble will give misleading data, since the spinal fluid pressure will also tend to be low at this time even when a puncture after recovery from shock would show increased pressure.

Our use of the spinal puncture rests upon the belief that it is of value in reducing increased intracranial pressure, but THE PRIMARY PURPOSE IS TO DETERMINE WHETHER OR NOT THERE IS BLOOD IN THE SPINAL FLUID. Bagley, of Baltimore, in a series of fundamental studies, has demonstrated that there is frequently a layer of supracortical blood which, if allowed to remain, tends to become organized and form a layer of new tissue in the sulci which serves to block the ostia of the supracortical veins, and interfere with the normal excretion of the cerebrospinal fluid, thus paving the way for a chronically increased pressure. If we find the spinal fluid bloody we do a spinal puncture at least once daily until the color is normal. If the pressure is definitely elevated puncture and drainage of spinal fluid is done from time to time as the indications seem to warrant, but where only a slight increase is found we depend upon dehydration therapy rather than repeated spinal punctures. It is our policy, although not strictly a routine, to do a spinal puncture before discharging the patient to be certain that he does not leave the hospital with an increased spinal fluid pressure.

We still adhere to the time-honored custom of ice caps to the head, using several ice caps. It is probable that this has no direct beneficial effect but it does have the merit of causing the conscious patient to remain quiet.

A study of the literature indicates that there is a wide divergence of opinion as to the period of rest in bed. We believe that a minimum period of three weeks is indicated with a routine approaching the S. Weir Mitchell régime as closely as circumstances permit. We insist on this minimal period in our list patients, and urge it upon our private patients.

To summarize briefly, we treat our acute head injury cases by absolute rest in bed for a minimum of three weeks. Spinal puncture is usually done the day following injury and thereafter according to indication, with a final puncture before discharge. The patient receives a dry diet with fluids limited to 800 c.c. per day, the amount, however, being controlled by careful observation of the pulse rate. He receives 50 c.c. of 50 per cent dextrose intravenously three times a day for at least one week with insulin added if glycosuria develops. Magnesium sulphate, ounces two daily by mouth or ounces four by proc-

toclysis is regularly employed. Sedatives are given to control restlessness, but morphine, WHICH IS A RESPIRATORY DEPRESSANT, IS NOT USED. Ice caps are applied to the head to assist in keeping the patient quiet.

The chronic head injury case with post-traumatic headache, dizziness, personality changes, easy fatigueability, and sometimes epileptiform episodes constitutes one of the most difficult problems with which we have to deal. It is not enough to summarize our helplessness under the term "post-traumatic psychoneurosis," which implies a functional disorder and we are compelled to recognize that these patients are not all motivated by a litigation neurosis.

Studies in these cases show that we often have a chronically increased spinal fluid pressure, possibly from blocking of the ostia of the supracortical veins by material resulting from diffuse supracortical hemorrhage at the time of injury. But there was not increased pressure in all these cases at the time of the re-examination. This leaves to us the necessity of finding other explanations of the phenomena encountered.

The recent work of Fay of Philadelphia is believed to be of fundamental importance in relation to our conception of the cause of these so-called post-traumatic psychoneuroses. Employing air injections and encephalograms he has demonstrated that there is a definite atrophy of cortical tissue. This observation furnishes an organic basis for these complaints which have been thought of for so long as purely functional. Some of us may feel inclined to question his theory, accepting some other explanation, but the facts which he has demonstrated are not subject to question since they can be so easily substantiated.

It has been noted that air injections are sometimes followed by striking relief of the so-called neurotic symptoms of which these patients complain. I have done a limited number of air injections for diagnostic purposes and have found the improvement so striking that this is now regarded as a therapeutic as well as a diagnostic procedure. It seems probable that the value of this procedure lies in breaking down adhesions which develop between the brain and the meninges as a sequel to brain damage.

The "Mock Test" furnished another bit of data which tends to demonstrate an organic basis for the complaints of these patients. A fasting blood sugar is obtained and 15 minims of adrenalin chloride 1-1000 injected. Blood sugar determinations are then done every hour for three hours. In the normal person the highest value obtained will not exceed twice the value of the fasting blood sugar, and the reading at the end of three hours will be normal, while in many of these patients with chronic symptoms following head injury the blood sugar will exceed twice the fasting blood sugar and the value at the end of the three hours will be higher than normal. The value of the Mock Test has not yet been fully demonstrated, but we are employing it and feel inclined to attach some significance to a positive test.

Prognosis.—At best, the prognosis in this group of patients is none too good. A definite percentage will die within the first twenty-four hours in spite of all possible treatment. Of those who survive this initial period many will develop the late symptoms mentioned above. Our objective in treating these patients is to restore the greatest possible number to physical, social, and economic normalcy. To achieve this desideratum it is imperative that we recognize the fact that, with the exceptions already noted, we are dealing primarily with an acute or chronic neurological problem rather than with an acute or chronic surgical problem. Our most important task is to recognize and treat the brain and vascular damage present, with due, BUT NOT UNDUE, attention to the bony damage.

Discussion

DR. MONT REID, Cincinnati: The treatment of skull fractures has certainly risen rapidly to a position of very great importance in the field of accident surgery. In our own hospital we are now having admitted more than two hundred cases of fractured skulls a year. Unquestionably the automobile and the extensive use of concrete have been material

factors in this rapid rise in the incidence of cranial injuries.

DR. R. O. ROGERS, Bluefield: I want to congratulate Dr. Wilkerson on his presentation of the subject of Craniocerebral Injuries. What he considers a departure from usual practice is probably a wholesome departure in the right direction. It is an obvious fact that the management of craniocerebral injuries attains its higher degree of efficiency in the hands of the specially trained neurological surgeon, but the fact must be considered that relatively few of such injuries are seen by a neurological surgeon and that they are usually treated by the general surgeon. Under such circumstances the practice is probably in favor of the patient which makes the management of head injuries a joint function of the surgeon and internist. We follow this practice in our own place, and we find the interest of the medical man often keener than that of the surgeon.

The title of Dr. Wilkerson's paper, first of all, conveys the very correct idea that a fracture is only a phase of a head injury and that the injury to brain is the important thing. It is, indeed, a fact that more extensive brain damage may occur with very little material fracture to the cranium. Dr. Wilkerson, as a medical man, is interested in the sequels of such brain injury and their prevention as far as prevention is possible.

We may assume roughly that a third of all actually serious head injuries die at once or that injury is so extensive that recovery is impossible. Another third make complete recoveries with no apparent ill effects. A remaining third make some sort of recovery, but they continue to have or develop soon after their injuries a train of symptoms which we call residuals. We hear much about the traumatic constitution. Nearly all of these patients complain of headache and dizziness. They have a definite intolerance for fluids, especially alcohol. They fatigue easily. They are usually irritable and may possess various other elements of changed personality. Some of them actually have epileptic seizures. It is the occurrence of residual symptoms in this large number of instances that is of principal concern and gives to the subject of head injuries such great importance. Under any plan of management we can not hope to eliminate all of these cases, but it is undoubtedly a fact that the incidence of such sequels can be greatly lessened by the proper early care of all head injuries. The management, as the essayist has pointed out, must depend upon a thorough knowledge of the pathological physiology involved and a serious effort to restore and maintain, as far as it is possible to do, normal physiology. This is accomplished then, as far as our present knowledge goes, by the intelligent treatment of initial shock, by the application of surgery at the proper time and only when it is positively and imperatively indicated, and lastly, by the adoption of those tentative measures which tend to overcome and control edema and intracranial pressure which invariably may be expected to follow the shock period. I doubt if we have much to offer the individual who has already developed residuals. Air injections may offer something, but so far we have no definite assurance of permanent relief. We find ourselves still restricting fluids for these people and ordering a life of moderation.

There is just one thing which may be stressed and that is the danger of our enthusiasm in any subject taking us too far. The fact is appreciated that serious brain injury may occur, with late destructive change, without a fracture having been detected. It is equally true, however, that severe fracture may occur with extensive laceration of brain, and yet a large proportion of such cases recover without ill effects. In admitting both contentions, in the evaluation of certain symptoms claimed to have followed a head injury, we should be careful to ascertain if actually there has been an injury of serious import. In such cases we often find ourselves in court having to answer questions which admit possibilities which are extremely improbable. We should give every consideration to the poor fellow who is the victim of a traumatic constitution, but at the same time we have to keep in mind that the litigation neurotic is capable of extraordinary mimicry.

Dr. Wilkerson evidently belongs to the school of conservative treatment, and with his viewpoint we are now entirely in accord. There has been a very definite change in the past ten years; we are treating fewer cases by operative procedure than we formerly did. There is a school, as has been pointed out, that advocates the free use of subtemporal decompression. There are even those, as Coleman, who not only adovcate a decompression, but who advocate an exploratory operation with a removal of the cortex, that is damaged beyond hope of repair. Coleman believes that such a procedure definitely lessens the incidence of post-traumatic epilepsy and other late sequellae.

One curious thing about the various schools with respect to the treatment of fractured skulls and brain injuries is that statistics are practically the same so far as life is concerned. The mortality

rates are about the same. The radical treatment appears to have as much success as the conservative treatment. I sometimes wonder if the fact that a person gets interested in a subject like this and gets better results by different methods than other people does not cause us to overlook the real cause that is giving better results? It is quite true that when a person gets interested in a given subject, he takes very much better general care of that particular group of patients. I have seen this fought out a great deal in the last year or two, particularly with reference to the treatment of peripheral vascular disease. We all know there is that school which is very much in favor of operating upon the sympathetic nervous system. There is another group, of which I am a member, that believes more in the conservative method. I can not report any better results than the other; we are both getting better results and I think the reason is that we are both giving our patients better general care. I think that is true in a measure in connection with head injuries. A man that is interested in them is going to get better results, and I am not at all sure but that the reason is that he gives his patients better general medical care and nursing.

I am delighted that Dr. Wilkerson has appeared on this program in the rôle of a medical man helping in this difficult problem. I am quite convinced that the treatment of fractured skulls is so intimately related to medical and physiological measures that results can be definitely improved by a thorough coöperation of medical men in the treatment of skull injuries. I am entirely in agreement with practically everything that he has said. I might just briefly stress one or two points.

It certainly is true that the bone damage is no index of the brain injury. On the contrary, it is certainly true that there can be very serious brain damage without any evidence of a fractured skull. That is an extremely important point. It often happens that these patients are unwisely sent home when the x-rays show no evidence of a fracture.

The lucid period following brain or head injuries is an important diagnostic point. On that question I agree with Dr. Wilkerson that such a condition demands an operation to relieve the extradural hemorrhage.

Sharpe's figures, as quoted by Dr. Wilkerson, certainly should impress upon all of us the necessity of giving a guarded prognosis in all cases of head injuries. They are amazing as an illustration of the high incidence of disability following recovery of life. It must be emphasized that one's responsibility is not only to save life, but to try in every way possible to alleviate these distressing post-traumatic symptoms which most people today believe are due to definite brain damage. It has been felt by a great many people that a lot of these cases are caused by a prolonged period of intracranial pressure. That, of course, is the main argument by the men who resort freely to the use of a subtemporal decompression. We still think that it is a definite factor and that the pressure can not be relieved in a reasonable length of time by lumbar punctures or by the use of dextrose and magnesium sulphate, that it is wiser to do a decompression than to subject the brain to a period of prolonged intracranial pressure. It appears quite definite that a prolonged period of increased acute intracranial pressure can lead to very serious changes in personality.

Dr. Wilkerson's use of ice caps is a very excellent thing. Whether they do a great deal of good or not, they help to keep the patients quiet. In addition to the use of ice caps, I feel that it is of considerable value to have patients with head injuries in a position with the head considerably elevated. Such a position helps not only to control hemorrhage, but possibly to lessen the edema of the brain.

Since Pennfield brought out the treatment of these post-traumatic cases by the use of air injections, I am happy to state that we have secured some good results similar to those quoted by Dr. Brooks. The incidence of improvement seems to be great enough to justify its use as a therapeutic measure.

Dr. Wilkerson is to be very greatly congratulated upon his excellent paper and I am delighted to witness the interest of the medical side of our profession in this difficult subject.

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INTESTINAL OBSTRUSTION *

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REGARDLESS of the vast amount of work by eminent investigators, cases of ileus continue to have one of the highest death rates in the acute surgical conditions of the abdomen.

In West Virginia in 1931, 156 deaths were attributed to strangulated hernia and intestinal obstruction; 200 to appendicitis and still others to the more insidious type of obstruction caused by intestinal neoplasms and reported under the heading of cancer. This high rate prevails in spite of the fact that in the clean cases of appendicitis and hernia, almost any surgeon may claim a minimum death record. It is obvious that many of these deaths were preventable. While we are not always to blame, for many patients are not seen by the physician until late manifestations have made their appearance; nevertheless, we must assume our share of the responsibility if we have failed through inadequate examination and study to recognize the preobstructive conditions, or having recognized them, we have followed expectant treatment until late toxic symptoms have occurred and then offer to the patient only 40 per cent chances of recovery.

Dr. Mayo states that the physician who waits to advise laparotomy until he sees that his patient will die of obstruction unless operated upon, will often find to his sorrow that his patient will also die after the operation has been performed. Since neglected cases of hernia, appendicitis, and neoplasms are common causes of intestinal obstruction, the outlook for a further reduction in this high death rate can be attained only by early recognition of, and advising prompt surgery in, the preobstructive condition; or when obstruction has occurred before late toxic symptoms appear. Too little emphasis has been placed on early symptoms of obstruction and late symptoms have been over emphasized.

Normally the intestinal tract may be divided into three main portions according to their physiological function:

First: From the pharynx to just below the ampulla of Vater, the chief function of which is the elaboration of the chemical and digestive enzymes.

Second: From just below the ampulla to the ascending colon concerning itself with assimilative processes.

Third: From the ascending colon to the anus concerning itself with dehydration and elimination. Under normal conditions the passage of material through the gut tube is progressive with normal stasis occurring at certain points; viz., pylorus, ileo-caecal and recto-sigmoid, these being created for the purpose of temporarily retarding the contents for the more complete digestion and assimilation.

Neoplasms and obstruction are pathological conditions often found at these points. The intestinal wall normally is impermeable to bacteria but when damaged may no longer be able to prevent egress of bacteria and this is what occurs in obstruction.

Mechanical obstruction may be classified under two fundamental types: First, Occlusion of the intestinal lumen without injury to the bowel wall or interference with the circulation of this part. Second, Strangulation, in which there is interference with the venous, arterial and lymphatic circulation, as well as obstruction of the bowel. There is a third group which, strictly speaking, is not purely a mechanical obstruction but is a type one may call physiological obstruction, existing by virtue of atony of the bowel, being due to backage by toxins or nerve inhibition of the neurones in Aubach's plexus. This latter type is often seen following extensive intestinal sur-

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gery, in peritonitis or associated with some massive infection as pneumonia, and in this latter condition the abdominal symptoms for the time being are more pronounced than those of the lung and the lung pathology is often not recognized.

In cases of the first type the obstruction may be produced by constricting bands, pyloric obstruction, imperforate anus, and one that we should always consider in older people, cancer of the colon, which occasionally is ushered in as an acute obstruction without premonitory symptoms. There are marked physiological changes produced in this type, such as dehydration, loss of chlorides, increased urea and starvation. When the occlusion occurs just below the entrance of the common bile and pancreatic ducts with the consequent loss of the bile, digestive juices and chlorides, the most acute onset of symptoms occur and may produce very rapid death. The lower in the gut tract the obstruction is, the less acute is the obstruction. Vicious cyclic vomiting sometimes occuring following gastrojejunostomy is of this type. Simple occlusion unfortunately does not long remain as such but soon injury to the gut wall or interference of the circulation occurs and a graded toxemia appears.

Under the second type which includes such conditions as strangulated hernia, volvulus, and intussusception we have in the moderately early cases not only the physiological changes seen in the first type but a gradually increasing toxemia supposedly of bacterial origin, the toxin being easily absorbed into the system by way of a strangulated loop, the walls being injured either from distention or interference with its circulation; and the vomiting produced by the obstruction being responsible for the dehydration and alteration in the blood chemistry. Gangrene of the bowel is a major factor that makes this type such a desperate surgical condition.

The third type, post-operative or paralytic ileus is due to blockage by toxins or by nerve inhibition of the neurones in Aubach's prexus, and presents different symptoms from the mechanical type. We have not only the physiological changes but later toxic manifestations associated with a distended silent abdomen, no audible or visible peristalsis, frequent vomiting, at times patient just turning head and expectorating variable quantities of foul smelling fluid from the stomach. Clinically, paralytic ileus occurs more frequently than the mechanical type in post-operative cases. Recently McVicar and Weir stated that the earliest symptoms in post-operative ileus before blood changes make their appearance are nausea, epigastric distress, gastric retention, and a decreased urinary output, and by the early administration of sodium chloride and glucose solution more dangerous symptoms may be averted. It is in this type that very keen judgment is sometimes needed as to the proper treatment. Diffuse peritonitis and paralytic ileus are two common as well as dreaded complications in the acute abdomen and often result from the injudicious use of purgatives in abdominal pain of an undetermined nature. Frequently an otherwise moderately inflamed appendix may be ruptured by this unwarranted habit.

In the non-operative abdomen the causes of ileus are few and may be classed under congenital anomilies, hernia, and new growths of the intestine, whereas, every abdominal operation is a potential source of trouble. And, since ileus occurs frequently following operations performed for appendectomy, sufficient thought should be given to right sided abdominal pain that many ill-advised operations may be eliminated, and we must not lose sight of the fact that these unnecessary operations are numerous.

Early diagnosis of intestinal obstruction is not always possible, but is more often made if the significance of repeated vomiting and abdominal pain is sufficiently considered. In the diagnosis we must not wait for all classical symptoms. Ileus should be a consideration in any patient and particularly in the post-operative one, who complains of intermittent abdominal cramps, nausea or vomiting, lack of abdominal rigidity with an absence of temperature or elevation of pulse rate. Whereas, fever and a high leucocyte count early speak

against obstruction, similarly a rapid pulse with shock is very suggestive of mesenteric thrombosis, and in the latter there may be considerable pain but a silent abdomen. We should be familiar with the different types and symptoms of obstruction from the acute pyloric stenosis of infancy with its train of symptoms, projectile vomiting after feeding, visible epigastric peristalsis, dehydration, and loss of weight occurring in the early weeks of infantile life; to the obstruction of the colon in the carcinomatous age, often first attracting attention through marked disturbance in lower bowel function. Intussusception should be suspected early if we recognize the meaning of the sudden intermittent screams, vomiting and pallor, occurring in a previously normal child, for tenemus and bloody mucus may be late appearing and the sausage shaped mass is not always palpable. Appendicitis being a condition so commonly encountered and so often leading to peritonitic ileus, we should all be familiar with the symptoms and signs in its onset, but the present incidence of late cases of appendicitis often complicated by ileus at the time of entrance to the hospital is sufficient evidence that the high mortality rate in both appendicitis and many cases of ileus, in a large majority of cases, is due to the injudicious use of purgatives, and that expectant treatment and procrastination are important factors in keeping up this high rate. An atypical or typical history of appendicitis with negative abdominal findings calls for a rectal examination before eliminating the possibility of an appendix situated in the pelvis, which undiagnosed may lead to peritonitis and ileus. The truss has given many patients with hernia a false sense of security against strangulation, with the result that 20 per cent of strangulated hernia cases die regardless of the operation, and erroneously the public through truss advertisements are given the wrong impression that operation for uncomplicated hernia carries with it a high mortality rate. As a matter of fact, in uncomplicated hernias including the large umbilical and ventral type, the death rate is much below one per cent.

The radiograph may give very valuable information in early suspected obstruction. No contrast media is advisable by mouth or rectum in the acute conditions. The diagnosis is based on distinguishing the distended gas-filled gut. In a suspected case of partial obstruction of the colon, barium should only be administered by rectum as a complete obstruction may be superimposed on the preëxisting partial one. An obstruction existing in the small intestine in the majority of cases is not due to cancer, while one existing in the large bowel is, in the majority of cases, carcinomatous in origin.

Besides the types usually ushered in acutely and showing marked symptoms of toxemia, we have another important type that, as a rule, makes its appearance more insidiously and is associated with growths of the intestines, principally carcinoma of the large bowel. These growths are more frequent than one would expect and occur almost as often as those of the stomach, the rectum and recto-sigmoid areas being the most common sites. Obstruction is not a characteristic early symptom of cancer of the large bowel except when located on the left side anywhere from the transverse colon down; occasionally, however, growths in the large bowel make themselves known by an acute attack of obstruction without premonitory warning. On the right side anemia is the earliest sign and this difference is due to the rich lymphatic supply of this side, also to the fact that in the cecum and ascending colon there is more absorption of fluids and poisons, and this absorption is increased when necrosis occurs.

Cancer of the large bowel should be considered in a patient over fifty years of age, who, with a history of previous regular bowel habits, abruptly begins having marked trouble in bowel function, or a secondary anemia of undetermined origin, or blood in or on the stool. There is probably no field of work more satisfactory than diagnosing malignant tumors of the colon early enough for operation and before very definite obstructions exist, though how often do we see advanced cases with chronic obstructive symptoms that

have been treated for other simple rectal disorders without the patient having had a rectal examination, and many cases have already been operated on for hemorrhoids, a growth higher up being overlooked. The incidence of cancer of the colon has been estimated at about four per cent of all cancers, at least 75 per cent occurring in a location easily diagnosed by digital, proctoscopic or Roentgen examination, if we only avail ourselves of these methods.

When carcinoma occurs about the recto-sigmoid junction it spreads around the bowel, producing stricture, and the earliest symptom that attracts attention is the increasing difficulty in bowel movement. Acute obstruction may occur in this location from an intussusception, the growth being the pre-disposing cause. In the ampulla there is no obstruction, but much rectal discomfort, ulceration and hemorrhage; when situated at the anus, there is pain at every bowel movement and continuing, associated with much rectal tenesmus, and change in shape of stool. Due to the low type of malignancy, as graded by Broders, patients with carcinoma of the large bowel survive longer than those in any other parts of the body, and often show marked obstructive symptoms before any glandular mestatases have occurred.

An intestinal obstruction, no matter what the cause, is a condition that may not be easy to relieve, and the operation may vary in magnitude from a simple division of an adhesive band to the resection of a gangrenous loop of intestine, and unless one is capable of handling any emergency that may arise within the abdomen, he should under no circumstances attempt the operation. The surgical technique of operation need not be detailed.

In the treatment of intestinal obstruction we must remember that we are dealing usually with a dehydrated, toxic, and starved individual, and plan to combat these by the administration of salt solution and glucose freely and frequently, in many cases before operation though always following. In certain cases, as pyloric obstruction or cancer, we must treat the dehydration and loss of chlorides first and never make this type an emergency. The intestines above the obstruction become filled with fluids which are not only most infectious but certain poisonous chemical products. Regurgitation of this material into the stomach requires careful emptying, before as well as after operation, for the reason that regurgitative intestinal contents not only depress the patient, but its toxins may cause acute gastric dilitation, and at times may produce drowning by the aspiration of this fluid. The introduction of an indwelling catheter through the nose into the stomach and left in place not only prevents this, but the patient being given or encouraged to drink large quantities of water, the relief of the vomiting and thirst is most gratifying, and offsets the discomfort entailed by the passage of the tube. I have devised and am having made at the present time a double current tube which, when attached to a suspended infusion bottle filled with water, a continuous irrigation of the stomach may be carrried on, the rate of the flow being regulated as desired. I believe this tube will eliminate the irrigation of the throat caused by the motion of the partially fixed tube with each act of swallowing. The tube being passed through the nose can not be vomited. With the continuous irrigation I do not believe mucous plugging of the tube will be encountered as much as with the single tube. Also, in protracted post-operative vomiting, especially in cases of paralytic or peritonitic ileus, the continuous use of any duodenal tube will in many cases eliminate the necessity of an enterostomy.

There are several methods of anastamosis following the resection of the right colon, namely, end to end, lateral, end to lateral, and the double barrel enterostomy according to the plan of Mikulicz. This latter method is safe and eliminates the possibility of contamination from leakage and peritonitis, though having an interval between the first and second stage of operation that is very disagreeable to the patient, caused by the constant pouring out of liquid feces upon the abdomen from the enterostomy, producing con-

siderable irritation of the abdominal surface for a period of several weeks before the second stage of the operation, closure of the temporary artificial anus, can be proceeded with. This must be carried out regardless of the degree of irritation of the skin surface about the enterostomy. With the view of relieving the patient of several weeks of this irritating discomfort, I wish to report a few points that I carried out on a patient I have at the present time, which eliminated not only this irritation of the abdominal wall but the artificial anus, except for the duration of *six days,* while clamp was on and two days following. I operated upon this patient May 31, for adenocarcinoma of the ascending colon, resecting the cecum, ascending colon and a few inches of both transverse colon and ileum, according to the plan of Mikulicz, except that the mobilized right colon was brought out through a right muscle splitting incision, where clamps were applied. The original wound was closed and loop of intestine sutured to muscle and peritoneum of the smaller wound. The entire loop was then removed with cautery. Following operation there was no shock and patient left operating room with pulse of 80. The case being one of partial obstruction it was thought advisable to remove the clamps from ileum and transverse colon at the end of 48 hours. The original wound being clean it was covered with a water-proof cement, this covered by rubber tissue and cemented down, entirely protecting it from any drainage, the upper and lower edges of the muscle splitting incision were covered with the same cement. A rubber tube with cuff was inserted into the limb of the colon and limb of the ileum and sutured in place, the drainage from the ileum being allowed to run into a receptacle by the side of the bed for 24 hours. The following day the tubes were joined by the addition of rubber and glass tubing and the ileal contents were carried through the rubber and glass tubing into the limb of the transverse colon. Daily bowel movements were obtained per rectum by aid of salt solution enemas with no leakage about the enterostomy for four days when there was a slough of part of the protruding gut above the line of purse string suture, and this was excised and tubes were replaced and sutured. The cement held tightly and later was easily peeled away similar to collodion. June 8th, tubes were removed and a Wertheim-Cullen right angle pedicle clamp inserted, one blade in limb of colon, one in limb of ileum. Clamp remained four days when it came away with the spur. There was excessive drainage and irritation from June 8th to 11th, and Kaolin ointment was applied. Following removal of the clamp, bowel movements per rectum again occurred and much less escaped through the enterostomy opening. Realizing that the irritation was mainly chemical I decided June 14, three days after removal of clamp, to attempt turning in of intestinal wall using dermal suture and covered this with the water-proof cement using several layers, allowing each to dry. From this date bowels have been moving several times daily per rectum and the cement has several times been removed and replaced. The picture shown was taken on the 18th day following operation. There is no irritation of the abdominal wall. Due thought was given to the possibility of producing wound infection from the cement, but this was considered negligible, as it was not applied until 48 hours after operation. Sufficient spur had been removed as was shown by bowel movements per rectum giving no interference to the progressive course of the intestinal contents. At the present time there has been enough wound contraction that it appears closure will be accomplished with the first stage operation. I feel that in this case the patient has been spared not only four to six weeks of the disagreeable drainage and irritation about the abdomen, but relieved of the extra financial burden that hospitalization would entail.

Through our improved knowledge of the toxemia occurring in cases of acute ileus, the treatment of these cases has been placed on a more rational basis, but the future advancement in lowering the mortality rate must be through public education under several head-

ings: (1) Discouraging the common habit of administering purgatives in abdominal pain of undetermined nature; (2) Early diagnosis and urging prompt surgery in the pre-obstructive conditions such as appendicitis and hernia; (3) Urging more frequent digital, proctoscopic and Roentgen examinations in diseases of the large bowel.

Discussion

DR. RUSSELL B. BAILEY, Wheeling: For brevity, let us divide intestinal obstruction into two types: first, that due to ileus, either pre- or post-operative; and, second, that due to some intrinsic disease of the large or small bowel.

Pre-operative ileus is, as a rule, due to peritonitis from appendicitis, or a ruptured viscus; occasionally it may be hemotogenous. With but a few exceptions, the fatal termination of a patient with peritonitis and ileum may be traced to someone's mistake. Either the patient has not called a physician soon enough, or the physician fails to recognize a surgical abdomen. Atypical appendicitis, mesenteric thrombosis and perforated ulcer are often times difficult to diagnose. On the contrary, there is little or no excuse for failure to recognize an acute surgical abdomen, if all available diagnostic procedures are employed. One should not feel chagrined for opening an abdomen for perforated ulcer and finding acute appendicitis, yet to procrastinate until a positive diagnosis is made, losing valuable time, should be condemned. The physician with a large general practice must be constantly on his guard, when prescribing for so-called "stomach ache."

Post-operative ileus can frequently be traced to mauling of intestines, improper preparation of patient, prolonged operation, and injudicious technical procedures, all of which are the result of insufficient surgical experience. This type should rarely occur in the hands of a competent surgeon.

Intestinal obstruction, due to intrinsic pathology, is usually secondary to carcinoma or to post-operative adhesions. It should be recognized early and cared for promptly. The pre-operative and immediate post-operative care is extremely important. The most valuable adjuncts in this care are the intravenous use of normal saline and glucose, the duodenal tube for the relief of upper intestinal accumulation of toxic products, the Harris drip or tidal wave for the lower bowel.

To discuss the various technical procedures, which are described in the management of carcinoma of the large bowel, would take too long. One should choose the operative procedure which suits the individual case, whether it be a single or multiple stage operation. The procedure described by Mikulicz, as used by the essayist, is most excellent in many instances and carries with it a very low morbidity and mortality.

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FREEZING MICROORGANISMS

The old belief that freezing destroys microörganisms that cause decay in food must be revised with the discovery of Dr. C. A. Magoon, of the U. S. Department of Agriculture, reported before the American Chemical Society, that some microbes have been found to resist temperatures as low as minus 422 degrees F. for as long as ten hours with no apparent harmful effect. The majority of microbes present originally are usually killed, but there is ordinarily a small proportion of survivors whose vitality is unaffected, and these cause alterations in the color, flavor and healthfulness of foods, depending on the particular organism concerned.

Three main groups of microörganisms, explained Dr. Magoon, are responsible for this spoilage of frozen foods: molds which thrive practically anywhere, yeasts which attack sugar-containing products such as fruits, and bacteria which act on meats and other substances rich in proteins.—*International Medical Digest.*

SOCIAL INSURANCE

By EDWARD H. OCHSNER

CONCLUSION.—The purpose of this series of articles on Social Insurance has been to arouse the rank and file of the medical and dental professions and, through them, if possible, the general public, to an impending danger; and to dispel a number of quite generally held false opinions.

The first of these is the very commonly held belief that the moment a professional man assumes a title and a government position he knows more and becomes more efficient than he ever was before, while the contrary is more often the case because of the enervating effect of red tape and paper work.

The second common error is that by some magic compulsory health insurance is going to escape the favoritism, nepotism, graft and, in fact, all of the evils of politics. This is a delusion, with which reformers and the intelligentsia in general are commonly afflicted. The practical man of affairs and particularly the seasoned politician does not fall into this error. Some time ago during a heart to heart conference a practical politician said what he really felt and knew to be true. He said in substance that we must remember that, "We have government by politics, and you and I or all of us with a hundred thousand others can not change this situation. I do not care whether you remove the control from the city to the state or to the federal government, it will still be controlled by politics."

The third common error again held particularly by the reformers and intelligentsia is that statisticians and economists can solve this problem unaided. Desirable, valuable and even necessary to a complete understanding of the problem as a study by competent economists is, there is one very important fact which many who have made a study of the problem do not seem to be able to realize—namely, that in a matter where personal relation is such an important element as in the practice of medicine and dentistry the ordinary formulas employed by economists do not and can not apply. Personal relations can not be measured by any mathematical formula devised. It is too elusive a factor to be measured by monetary or any other standards, and yet of all the factors it is by all odds the most important. Only the individual who has had an extensive experience in the practice of medicine or dentistry or the one who has had a long and serious illness seems to be able to evaluate properly this phase of the problem. Then again the lack of medical knowledge by economists makes it impossible for them to appraise the difference between the personal individual care of the patient by the private physician and the more or less impersonal mechanical care of the panel or Krankenkasse physician nor are they so situated as to have access to individual patients and even if they had, they lack the training to know which is giving the better treatment. From the foregoing it must be evident that this type of study and investigation has its limitations in cases where the personal element enters intimately with a social or economic problem, and if too much dependence is put upon it wrong conclusions are bound to be reached or to re-instate this point a little more concisely, let me say that statistics have their value and their limitations. The more personal the matters under investigation the less their value and the greater their limitations. One writer has expressed this idea very well in the following words: "There is real danger that the economist lost in the abundance of his researches finally overlooks the plain and easy road that lies directly before him."

Probably the most common error is the belief that social insurance will abolish poverty. To the contrary, it is at best only a palliative and, like all palliatives, if employed for any considerable period of time always leaves conditions worse than when first employed.

Another common error quite generally made by the more sensitive and emotional is to believe that the receiving of charity is of all things possibly the most degrading. Serious as the accepting of charity is to the character of the intelligent and sensitive, there are many other things even worse and one of these is the quite general practice of malingering which compulsory health insurance and the dole encourage and foster among the workers of a nation. There is this fundamental and very important difference between accpting charity and a health insurance stipend—the former is still considered somewhat of a disgrace while to get the lat-

ter, even through subterfuge, is considered highly respectable and clever.

There are two questions that the compulsory health insurance proponents have never answered in spite of the fact that they have offered innumerable alibi that do "not alibi" and endless explanations that do not explain. First, why if compulsory health insurance improves the health of a nation as claimed by its proponents, is the death rate no lower in those countries that enjoy this "great blessing" than in those countries not so blessed? And, second, why shortly after and since the introduction of compulsory health insurance have the number of days lost by the workers per annum steadily increased? The answer to the first question is that it does not improve the general health of the people and the answer to the second is that among a very large per cent of the working population it substitutes for *the will to get well and the will to work, the will to stay sick and the will to loaf.*

Personally I am quite satisfied that Germany and England should make their experiments in social insurance and Russia her experiment in state medicine, but I am happy that these experiments are being made three and four thousand miles, respectively, from our shores. I am firmly convinced that if we can stave off these schemes for another ten years we will be spared them because they will prove so harmful to medical practice and medical progress and so destructive to national character that we will escape their blight. Time will demonstrate that they are fundamentally wrong, a backward step in civilization.

Human progress in most lines has always been very largely the result of unhampered personal endeavor and rarely if ever the result of governmental action primarily. Will we never be able to learn from experience and must there always be recurrent periods of halt and even retrogression in human progress?

American medicine and dentistry stand today at the threshold of their greatest opportunities and beside the abyss of their greatest dangers; the former because of their marvelous advances in the recent past, the latter because they are being pestered and annoyed by a small but vociferous group of misinformed, uninformed, unwise and, in a few instances, self-seeking, selfish, self-appointed lay advisers. There are troubled times for these two allied professions; the men who stand firm now will deserve the gratitude of future generations of men and women.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

TUBERCULOSIS OF THE BONES AND JOINTS IN CHILDREN

Pulmonary tuberculosis rightfully claims major attention at a sanatorium since it constitutes ninety per cent of the cases of the disease in human beings. All organs of the body are susceptible, however, and among them the bones and joints. While it is customary to treat such cases at orthopedic hospitals, every sanatorium has their care as at least a minor problem. Dr. Hyde recounts his experience at Springfield Lake Sanatorium where in addition to a large population of pulmonary cases he has had wide experience with the management of cases of bone tuberculosis as well.

Occurrence.—The belief that the occurrence of bone and joint tuberculosis has dropped to a negligible point is untrue, therefore misleading and dangerous. At Springfield Lake during the past ten years four per cent of adult patients and five per cent of the 1,220 children admitted showed tuberculosis of bone and joints. The increase in tuberculin testing of cattle together with higher standards of living have not sufficed to eliminate the disease.

The death rate has dropped, to be sure, concomitantly with that from pulmonary tuberculosis. This is attributed, in large part perhaps, to earlier diagnosis and better treatment. City clinics, however, continue to carry the same or even a greater number of cases than formerly. These show the disease predominantly prevalent in children, eighty-seven per cent in 5,461 cases at the Hospital for Ruptured and Crippled in New York.

Etiology.—The disease is metastatic, is frequently blood borne and is often associated with other manifest tuberculous lesions in various parts of the body. Dr. Hyde found an average of 2.6 such lesions per patient. The treatment of these cases should, therefore, be recognized as a medical as well as an orthopedic problem.

Localization of the disease in bone is favored by

injury and by disturbances in nutrition. The injury itself in many cases may be slight, but twenty-seven per cent of the cases gave a history of recent trauma, and in a number bacterial proof of disease was made within four or five weeks of such history. The vascular metaphysial zone of the growing bone of children is a frequent site of this localization. In the group of cases discussed about half were children under treatment for tuberculous lymph nodes and the other half adults under treatment for pleurisy or pulmonary tuberculosis. Pott's disease is the commonest form of the infection in children under six, with the hip and knee showing greater frequency in older childhood, while tuberculosis of the upper extremity occurs more often in adults.

Diagnosis.—A successful outcome depends as in pulmonary tuberculosis on early diagnosis. This is difficult. The tuberculin test is of value only when negative. The x-ray does not reveal early lesions especially in the partially calcified bones of young children. The subcutaneous tuberculin test to stir up local reaction is dangerous and not to be approved. Biopsy is advocated by Hibbs and others, but this procedure may be misleading since it requires the highest diagnostic judgment and should only be used when surgeons and pathologists of long training and experience can coöperate in its performance.

Diagnosis must, therefore, depend largely on a history of previous contact or evidence of existing infection elsewhere in the body together with careful physical examination. Fluctuating swellings should not be opened though they may be aspirated with a fine needle for diagnostic purposes. In speaking of tuberculous adscess Calot says, "In closed tuberculosis cure is certain. To open it or allow it to open is to open a door by which death too often will enter." By means of smears, implantation on various media and guinea pig inoculation, tubercle bacilli were found in aspirated material from twenty-seven per cent of the present series.

Treatment.—Duration of treatment averaged 5.2 years. This fact emphasizes the essential importance of combined medical and orthopedic care for cases of bone and joint tuberculosis.

Conservative treatment by means of rest, diet, fresh air and sunshine is the method of choice for children. Surgery may be needed even in the younger cases but is a more important ally in handling the disease in older children and adults.

Immobilizing the affected joint in the position of election is the first and most important step. In advance cases with contracture deformities splinting may be done without immediate correction, relying on later surgical treatment when the disease has reached a period of quiescence.

Heliotherapy is recognized as a treatment of greatest value. Orthopedic appliances should be arranged so as to permit sun treatment when possible. Adequate doses of unfiltered sunlight furnish the ideal method of light therapy and have demonstrated their superiority over artificial substitutes. Only when sunlight is not available should the latter be employed. The effect of solar light is especially marked on tuberculous abscesses, exudates, sinuses and fistulae. Its judicious use in such cases often yields gratifying results; unwisely applied it may aggravate existing conditions. Especially in hot weather the penetrating red rays of the sun may be a source of danger. Rollier encourages his discharged convalescents to continue a life of heliotherapy.

When treatment is instituted early the disease may be arrested with, at times, complete restoration of joint function. In more advanced cases with extensive destruction of tissue rest will give subsidence of symptoms but with deformity or limited motion. In the latter case recrudescence is common.

Surgical Treatment.—Forcible correction of deformities should never be attempted. Gradual reduction under splinting and traction is at times successful. Operation should be undertaken only after all acute symptoms have subsided and when the x-ray indicates that the disease is inactive. Surgery does not cure tuberculosis of joints. Its dual rôle is in the correction of deformities and in the immobilization of joints by creating ankylosis in the position of election. When possible it should be deferred until the second decade of life or until bony development is nearly complete to avoid interruption of growth so far as possible.

If after healing some motion remains in a weight-bearing joint, ankylosis is often desirable to avoid the danger of recrudescence of the disease. Especially is this true in the spinal cases, and ready recourse to the Hibbs or bone graft method of operation is desirable.—*Tuberculosis of the Bones and Joints in Children,* Clarence L. Hyde, Am. Rev. of Tuberc., November 1932.

PRESIDENT'S PAGE

THIS MONTH brings to a close our term of office. Mingled with pleasure and the pride of serving have been some pathos and criticism. Much of this could have been avoided had we cared to follow a different road.

We were confronted with definite problems that seriously threatened the foundations of medicine. Those chosen to represent you realized the need of a discussion of these vital matters and attempted to bring them up during the year. Some required a certain amount of courage. The action of our members at the Parkersburg meeting in endorsing our program greatly encouraged us. Some of these matters are nearing a solution now. Many of those who opposed us earlier have since coöperated freely and given liberally of their time to aid in the solution. For this, we shall always be grateful.

The election of Judge Kump places in the Governor's office a sincere friend of the medical profession. Never before has one occupied this high office who is so familiar with the needs of reform in our state institutions. What pleases most is the fact that he has the courage of his convictions, and our program dealing with better care for the sick and unfortunate confined within the state will be fulfilled during the administration of Governor Kump.

Permit me again to thank all of you who have been kind enough to praise our few good deeds, while overlooking the many others. To those who have served with me I am very grateful. Their coöperation and loyalty are responsible for any good accomplished this year.

To Joe Savage, our ideal secretary, I owe a debt that can never be paid. He has met my every demand for guidance with a prompt and helpful response.

It will be most gratifying on January first to turn the affairs of this association over to my good friend, Dr. MacGregor. His fine judgment, foresight and wisdom will greatly increase our prestige during the coming year. Let us pledge to him our sincere coöperation and every possible assistance.

Albert H. Hoge

President.

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THE WILBUR REPORT

Attracting nation-wide attention, both within and without the profession, the final report of the Committee on the Costs of Medical Care was made on November 30, 1932, by Dr. Ray Lyman Wilbur, Chairman. The report brings to an end the five-year period of study of the committee.

As the final report covers some 130 pages of printed matter, it is impossible to cover all of the important and interesting findings in the JOURNAL. The recommendations of the committee, however, comprise an abstract that covers most of the essential points. These recommendations deal with the desirability of group medical practice, the extension of all basic public health services, the placing of the costs of medical care on a group payment basis through the use of insurance and taxes, the forming of state and local agencies to study and evaluate medical service and the training of physicians with increased emphasis to the teaching of health and prevention of disease.

It is not difficult to see the influence of lay minds in the above recommendations. With all due respects to the altruistic aims of the committee, we feel that the final report deals in generalities that will accomplish little. The report, in our opinion, does nothing more than to call attention to a trend that the economic depression has already gotten under way.

Of far more value, as far as the medical profession is concerned, is the minority report of the committee. The first recommendation of the minority is that government competition in the practice of medicine be discontinued. As this comes from the minority and is not dealt with the majority report, we naturally assume that the basic committee is in favor of government competition.

The minority further recommends that united attempts be made to restore the general practitioner to the central place in medical practice. Here again the majority report is silent. We may well ask the question: "Is the basic committee opposed to the general practitioner of medicine?" If so, then certainly the medical profession can not join hands with the well-meaning personnel of the committee.

Further minority recommendations request that the government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden; that the corporate practice of medicine financed through intermediary agencies be vigorously and persistently opposed; that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice; and that the various county and state medical societies develop their own plans for medical care.

Unquestionably the report of the minority is the voice of the medical profession, just as the majority report is the voice of the servants of public health. Here we have, after five long and arduous years of study, the same problems that we faced before the committee came into existence. The question was, and still is, shall we continue to follow the methods and traditions that have been handed down from generation to generation, or shall we tackle one of the many synthetic panaceas proposed by those outside of the medical profession? That is the one all-important question, and it has not been solved by the Committee on the Costs of Medical Care.

This whole problem of medical practice presents a most delicate situation. We do not for one minute question the honesty or sincerity of Dr. Wilbur's committee. If the medical profession had stepped aside for lay

opinion, perhaps something might have been accomplished. If the lay opinion had stepped aside for the fundamentals of medical practice, perhaps something might have been accomplished. But with the two groups inevitably at loggerheads, and with two reports from the committee, we feel that the five-year study will perhaps do more harm than good. As we view the situation today, the only thing the report can accomplish will be to shake the faith of many doctors who have heretofore been loyal to the ideals and ethics of their chosen profession.

There are those who say that a change must surely come in the present method of medical practice. Perhaps so. But we don't believe this looked-for change will be a fundamental one. We believe that the pendulum of discontent will start its backward swing before any death blow is struck in our own great country. This wave of discontent is not a product of medical practice. It is simply a whirlpool of half-caste ideas that is drawing the established order of things ever nearer to its vortex. The practice of medicine, like many other things, is caught in the undertow. To extricate ourselves, we must stick together now as never before in the history of our calling.

MEDICAL vs. HOSPITAL CARE

From almost every corner of this great country of ours we hear rumblings of discontent incident to the encroachment being made on medical practice by lay groups and individuals. The question most often asked is, "Shall we have state medicine?" Some say yes; some say no. The profession at large agrees that a change in our present methods is imminent. This point is usually conceded on the ground that the public is suffering tremenduously under the high cost of medical care.

We feel that hospital care, not medical care, is the one real problem we have to contend with. The average patient who consults the average physician for even a severe illness generally is able to take care of his bill without a great deal of fuss or furore. But if the patient must go to a hospital for an operation, then the trouble begins. In other words, it is the cost for hospitalization that causes the furore and not the cost of medical care.

If that is the case, then certainly we should diagnose it as such and not allow the medical profession to be caught between this cross-fire of discontent. The medical profession should not consider any radical change in the fundamentals of medical practice if it is not responsible for the condition causing the discontent. Instead, it should lend its best efforts to divorce the cost of hospitalization, which is a problem, from the cost of medical care, which is not.

As we have pointed out many times before, 80 per cent of the medical criticism comes from medical doctors and medical groups. If you will think back on some of the lay magazine articles attacking this problem, you will recall that such articles dealt almost exclusively with the high cost incident to hospital care. Every doctor should bear this in mind before predicting doleful and unfortunate trends in medical practice. If we keep on talking about a change in the form of medical practice, we are bound to get it whether anybody wants it or not.

The purpose of this editorial is not to criticize the hospitals or the fees incident to hospital care. Goodness knows the hospitals are having a hard enough time of it without being denounced by organized medicine. But what we do want to point out is that this is essentially a hospital problem; not a medical one. Of course, the medical profession is vitally interested in hospitals and in adequate and proper hospitalization. We are eager to aid in seeking a solution to the problem of hospital costs. The only thing we don't want to do is to drag the practice of medicine into the controversy.

PROGRESS IS ASSURED

On November 8, 1932, Judge H. G. Kump of Elkins was elected Governor of the great State of West Virginia. He will assume the duties of this office next March fourth. While the medical profession, as such, played no

part in the election of Judge Kump, we nevertheless feel that he is a staunch friend of our State Association. To say the least, he is entirely familiar with many of our plans to advance the cause of scientific medicine in West Virginia.

We request that the members of our Association, regardless of politics, give their whole-hearted support and coöperation to Judge Kump during his administration. We would have made exactly the same request for Mr. Townsend had he been elected. In seeking a solution for our medical ills, let us work with Judge Kump; not against him. Let us ask advice as well as give it.

Again let us call attention to one of Judge Kump's statements which was published in our November JOURNAL. Commenting upon the care of insane patients in our state institutions, he said in part, "The care of those sick in body or mind should be entrusted to people fitted by talent, training, experience and sympathetic understanding for this essential and humane service."

Knowing that this is the opinion of our next Governor, we have every reason to hope for four years of medical progress.

DR. MACGREGOR HONORED

Dr. D. A. MacGregor of Wheeling, President-elect of the West Virginia State Medical Association, was signally honored by the American Medical Association on November 18 when he delivered an address on "Contract Practice in West Virginia," before the annual conference of A.M.A. Secretaries and Editors. Dr. MacGregor dealt with the problems of industrial medicine in this state and pointed out various methods of practice in West Virginia. His address was one of the outstanding papers of the conference.

West Virginia was well represented at the conference. Those present, in addition to Dr. MacGregor, were Dr. C. R. Ogden of Clarksburg, Dr. A. P. Butt of Elkins, and Mr. Joe W. Savage, state secretary.

Attention is also called to a paper published in the November issue of the *Virginia Medical Monthly* by Dr. C. H. Maxwell, past-President of the West Virginia State Medical Association. Dr. Maxwell's contribution to the Virginia journal was on the subject, "Endocrinology," which was read before the Monongalia County Medical Society at Morgantown.

COUNCIL MEETING

The annual year-end meeting of the American Council will be held at the Association headquarters in Charleston on Tuesday, December 13, 1932. The meeting will start promptly at 10 o'clock, A.M., and all Councillors and Officers are expected to be present.

In addition to the Councillors and Officers of the Association, Dr. Hoge has requested the presence of the members of the committees on Medical Economics and Legislation. With the council, these two committees will consider the report of the American College of Surgeons on the Newquist survey and plan the legislative program for the coming session of the state legislature.

INCOME OF PHYSICIANS

In the boom year, 1929, one-half the physicians of the United States received a net income of only $3,800 or less, while more than 21,000 practitioners derived less than $1,500 from their professional activities, and more than four per cent lost money as a result of their year's work, according to figures based on an exhaustive study of the incomes of physicians in the United States contained in a report made public on November 24.

The report states that although a number of physicians have exceptionally large incomes, it was found that a larger proportion of physicians have inadequate incomes than have members of any other professional group.

Physicians' incomes declined 17 per cent in 1930, the first year of the depression, according to the report. Comparative figures for the first three months of 1931 disclosed a still larger drop in income, and it can not be doubted that as the year progressed physicians' incomes continued to recede.

The report, "The Income of Physicians," by Maurice Leven, Ph.D., to be published by the University of Chicago Press, is the 24th study made by the Committee on the Costs of Medical Care in Washington, a non-governmental organization, which on November 29 at a meeting in New York City issued its final report with recommendations based on its exhaustive five-year investigation of the problem of providing "adequate, scientific medical care to all the people, rich and poor, at a cost which can be reasonably met by them."

OBITUARY

DR. JOHN H. RINEHART

Dr. John H. Rinehart of Worthington died at his home there on October 25, after having been in ill health for several years. He was 75 years of age and had not been in active practice for some time. Funeral services were held from the residence and interment made in the family plot at Worthington.

DR. GEORGE E. LEWIS

Dr. George E. Lewis of Chester died at his home on November 5, following an extended illness. He was 59 years of age and had been a member of the Hancock County Medical Society since 1909.

Dr. Lewis received his early education at West Liberty Normal School and later graduated from the medical school of the University of Pittsburgh, in 1897. He located at Chester in 1900 and followed his chosen profession there until his death.

Surviving are his widow and two daughters. His mother, one brother and four sisters also survive. Funeral services were held at the residence on November 9 and interment was made in the Locust Hill cemetery at Chester.

DR. U. G. COOK

Dr. U. G. Cook, one of the oldest physicians in Raleigh County, died at his home in Beckley on November 10 following an illness of several months duration. He was 69 years of age and was honored by the West Virginia State Medical Association last June by being elected an Honorary life member.

Dr. Cook practiced medicine more than 40 years, most of which was spent in Raleigh County. He was also an ordained clergyman of the Baptist church. Surviving are his widow, two daughters, and one son. Funeral services were held at the First Baptist church, Beckley, on November 14, and interment was made in the Sunset Memorial Park there.

COUNTY SOCIETY NEWS

OHIO COUNTY

Dr. Richard A. Bolt of Cleveland, Ohio, was the scientific essayist at the November 18 meeting of the Ohio County Medical Society which was held at the Ohio Valley General Hospital, Wheeling. His subject was, "Maternal and Early Infant Mortality." An interesting discussion followed the presentation of this splendid paper.

RUSSELL C. BOND, Secretary.

RALEIGH COUNTY

Dr. D. B. Jarrell, prominent Beckley physician, was recently elected Commander of Beckley Post No. 32 of the American Legion. Dr. Jarrell has been an interested and active worker in the Raleigh County Medical Society for many years. Commenting on Dr. Jarrell's election, *The West Virginia Legionnaire* stated, "He is wide awake, industrious, and has a background to become one of the outstanding Commanders of the Legion."

MONONGALIA COUNTY

Dr. M. A. Slocum of Pittsburgh was the scientific essayist at the November 1 meeting of the Monongalia County Medical Society which was held in the library of the Junior High School, Morgantown. Dr. Slocum's subject was, "Acute Surgical Conditions of the Abdomen." An interesting discussion followed.

Dr. M. L. Bonar, one time Professor of Pharmacology in West Virginia University Medical School and last year Hyde Fellow in Dermatology, University of Chicago, is spending the present year in the dermatological clinics of Vienna under Oppenheim, Fuhr, Urbach, and Planner. We hope that after he has finished his year's work in Vienna he will return to West Virginia to practice his specialty.

G. R. MAXWELL, Secretary.

CABELL COUNTY

Dr. W. Byrd Hunter, Huntington, was elected President of the Cabell County Medical Society at the October 27 meeting and will take office the first

of the year, succeeding Dr. R. M. Sloan. Other officers elected were Dr. W. C. Thomas, Vice-President; Dr. W. W. Strange, Secretary; Dr. R. M. Bobbitt, Treasurer; and Dr. D. J. Cronin, Censor.

Delegates to the state meeting at Charleston next May will be Dr. R. J. Wilkinson, Dr. R. M. Sloan, Dr. Francis M. Scott, and Dr. W. W. Strange. Alternates will be Dr. C. B. Wright, Dr. Fred Brown, Dr. W. C. Swann, and Dr. Don Kessler.

The scientific program for the October 27 meeting was furnished by Dr. Walter E. Vest, who gave a most interesting paper on "Visceral Lues," which was widely discussed.

The November meeting of the Society was held on November 10 at the Hotel Pritchard, Huntington. The essayist of the evening was Dr. B. I. Golden of Elkins, who talked on "Abdominal Chronicity and the Atuonomic System."

W. W. STRANGE, Secretary.

WYOMING COUNTY

On September 30 the Wyoming County Medical Society held its quarterly meeting at Mullens, West Virginia. The Society was addressed by Dr. J. E. Blaydes of Bluefield on the subject, "Sinuses from the Practitioner's Standpoint."

Those present were Dr. Albert Hoge, Dr. J. F. Biggart, Dr. B. W. Steele, Dr. T. W. Heironamus, Dr. D. D. Wilkinson, Dr. K. G. Khorozian, Dr. Frank Yates, Dr. W. R. Shumate, Dr. Tom Moore, and Dr. Ward Wylie.

WARD WYLIE, Secretary.

MERCER COUNTY

There was a meeting of the Mercer County Medical Society at Princeton, October 27, with fourteen members and seven visitors present.

Dr. J. I. Markell introduced Dr. Archer Wilson of Charleston, who read a paper, "Some Experiences with Surgery of the Sympathetic Nervous System," by Dr. J. E. Cannaday, Charleston, West Virginia, Dr. Cannaday being unable to be present on account of illness. "The Anatomy of the Sympathetic Nervous System" was given by Dr. J. B. Banks and illustrated with lantern slides. Discussion was opened by Dr. H. A. Bailey of Charleston.

These papers were very interesting and enjoyed very much. We appreciated these men coming from Charleston to put on our program.

R. R. STUART, Secretary.

KANAWHA COUNTY

Dr. Clifton F. McClintic of Lewisburg, and Dr. Thomas G. Reed, Charleston, were the scientific essayists at the November 10 meeting of the Kanawha Medical Society, which was held in the Public Library building, Charleston. There was an excellent attendance.

Dr. McClintic's subject was "Headache," which was most interestingly presented. Discussion was opened by Dr. John Moore and Dr. M. I. Mendeloff. Dr. Reed's subject was "Chronic Vesiculoprostatitis," an original series of observations of more than a year by the author. Discussion was opened by Dr. J. U. Rohr and Dr. G. G. Irwin.

The next meeting of the society will be held on December 13, at which time Dr. D. A. MacGregor, President-elect of the State Association, will speak on medical economics.

M. F. PETERSEN, Secretary.

LOGAN COUNTY

The Logan County Medical Society held its regular November meeting on the evening of the 16th at 8:00 P. M., at the Hatfield-Lawson Hospital, Logan, with nineteen members and visitors present.

After a short business session the following scientific program was rendered: Dr. C. L. Border, of the Hatfield-Lawson Hospital, read a short paper and gave a case report on "Superfecundation" and "Superfetation"; Dr. J. R. Shultz of Charleston read an interesting paper on "Differential Diagnosis of Acute Common Lower Right Quadrant Pathology"; and Dr. W. A. McMillan, also of Charleston, was to have read a paper on "Compressed Fractures of the Spine," but Dr. McMillan was unable to be present so Dr. L. B. Word, also of Charleston, came in Dr. McMillan's stead and read Dr. McMillan's paper.

Most of the members present joined in the discussion of these papers in a most commendable manner.

FRED E. BRAMMER, Secretary.

WOMAN'S AUXILIARY

NATIONAL PRESIDENT DIES

Mrs. Walter Jackson Freeman, President Woman's Auxiliary to the American Medical Association, died in Orthopedic Hospital, Philadelphia, Pennsylvania, October 27, 1932.

This is sad news to the entire Auxiliary and particularly to those who have had the great pleasure of knowing her. The grievous news came just one month after her visit to West Virginia on the occasion of the annual meeting of the Executive Board in Wheeling. Word had been received of her serious illness but a later bulletin indicated a sure if slow recovery and her legion of friends were not prepared for the shocking news of her death.

Mrs. Freeman has long been active in Auxiliary work, having served her County, State, and National Auxiliaries in the capacity of President. She was a student of Colonial History and Art and had studied both here and in European Museums.

The *Formula* writes in an editorial: "It is yet too early to realize her loss as we shall in time to come, but the withdrawal of her vivid and dynamic personality will be felt by each of us. She has passed to us the torch which she held high. May we follow her example of love and service to the organization. She died in the full tide and joy of her work."

JOINT MEETING

The Marion County Medical Society and the Woman's Auxiliary held a joint meeting at the Doctors' and Dentists' camp on Prickett's Creek near Fairmont. Dinner was served by the Auxiliary and the profit which amounted to about fifteen dollars was donated to a fund for buying shoes for school children. An orchestra provided music for dancing.

PERIODIC EXAMINATIONS

The American Medical Association, many State Medical Associations and Women's Auxiliaries are becoming periodic-health-examination minded. It is interesting to know that the North Carolina State Board of Health has been the leader in this field. North Carolina is the first state to employ a full-time man to plan and execute an educational campaign carrying the message of the need of this work to the people of every county in the state. The plea used by Dr. F. R. Taylor of the North Carolina Board of Health is a good one to use in every state: "Our State Board of Health believes, the Rockefeller Foundation believes, and authorities believe that this matter of widespread periodic health examination of the people by their own physicians is destined to be the next great progressive step in preventive medicine and in the literal saving of human life wholesale; therefore, let us all help ourselves and the other fellow, too, by our example, by each and every one of us going to his own physician at least once a year for a health examination, and then having the defects found corrected as far as possible."

MONTHLY MORBIDITY REPORT
for OCTOBER

	Influenza	Chickenpox	Diphtheria	Scarlet Fever	Tuberculosis (All Forms)	Typhoid Fever	Whooping Cough
Barbour	----	----	1	6	----	4	1
Berkeley	----	----	4	4	11	3	6
Boone	----	2	18	6	7	1	----
Braxton	4	----	20	----	----	13	----
Brooke	----	----	2	9	3	----	----
Cabell	----	2	25	30	4	1	----
Calhoun	----	----	6	2	----	7	----
Clay	----	----	----	----	----	2	----
Doddridge	32	----	----	12	----	2	2
Fayette	----	2	7	10	1	10	----
Gilmer	----	4	7	6	----	----	----
Greenbrier	----	----	2	----	----	1	----
Hancock	----	1	2	4	3	3	----
Hardy	----	1	----	1	----	1	----
Harrison	----	9	17	26	----	16	4
Jefferson	----	----	----	1	----	----	----
Kanawha	----	5	31	15	2	13	5
Lewis	----	----	6	3	----	----	----
Lincoln	----	----	2	2	2	5	----
Logan	----	3	8	19	----	8	----
Marion	----	1	4	6	2	4	6
Marshall	----	5	----	----	1	1	----
Mason	----	----	2	14	----	1	18
Mercer	1	4	8	5	----	7	5
Mineral	3	2	2	53	6	2	13
Mingo	----	----	14	----	----	6	9
Monongalia	----	5	5	8	----	16	----
Monroe	----	----	2	1	----	9	----
Nicholas	2	----	4	2	----	7	----
Ohio	34	57	3	8	8	1	12
Pleasants	----	----	----	1	----	11	----
Pocahontas	----	----	----	1	----	2	3
Preston	----	4	9	5	----	7	----
Putnam	----	----	4	1	----	----	----
Raleigh	----	----	28	21	----	5	----
Randolph	----	----	6	6	----	7	----
Ritchie	----	----	2	9	----	----	1
Roane	3	----	5	----	----	3	----
Summers	----	----	----	3	----	----	----
Tucker	----	----	2	1	----	2	----
Tyler	----	----	1	1	----	----	----
Upshur	----	----	10	1	----	----	----
Wayne	----	----	17	5	----	7	2
Webster	----	----	----	----	----	1	----
Wirt	----	----	----	10	----	1	4
Wood	----	1	24	17	2	2	----
Wyoming	----	----	----	5	----	6	----
Totals	74	108	310	340	52	198	93

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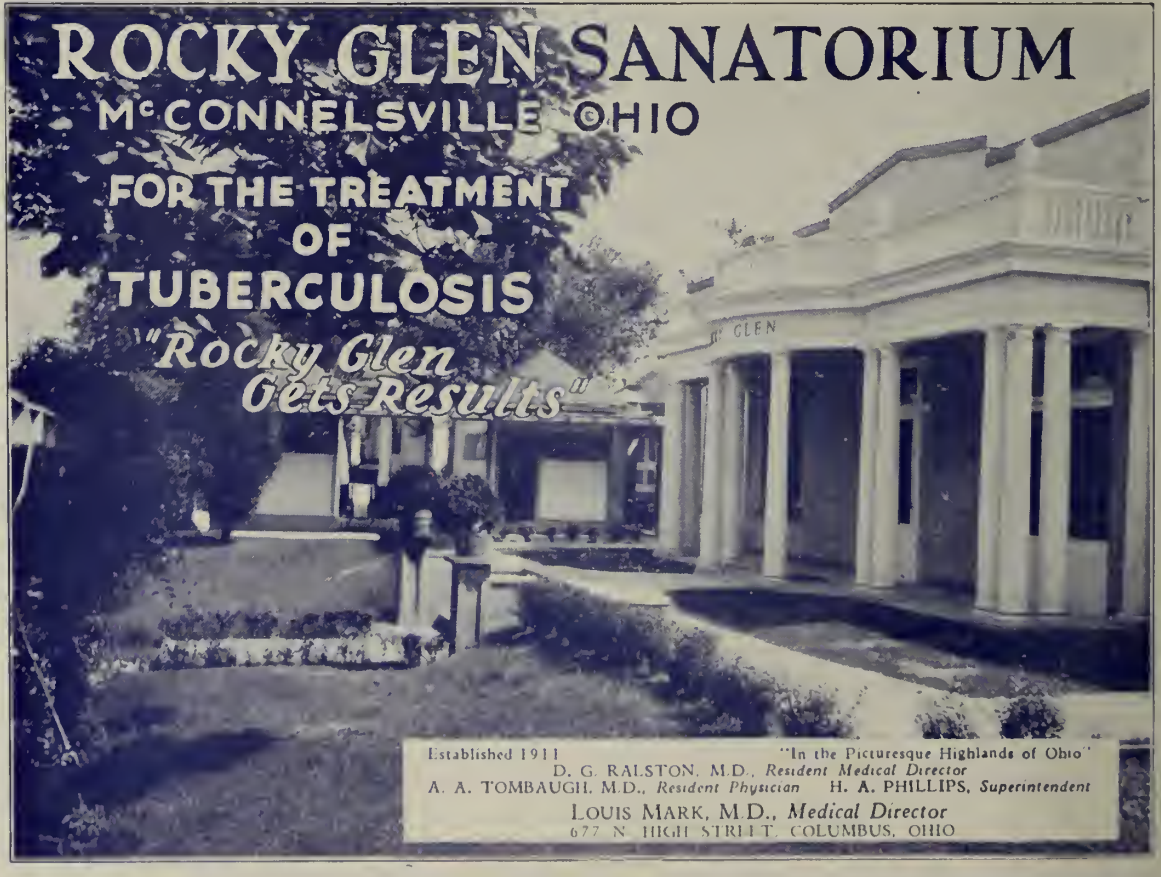

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Dr. Walter R. Griess—Some Phases of State Medicine
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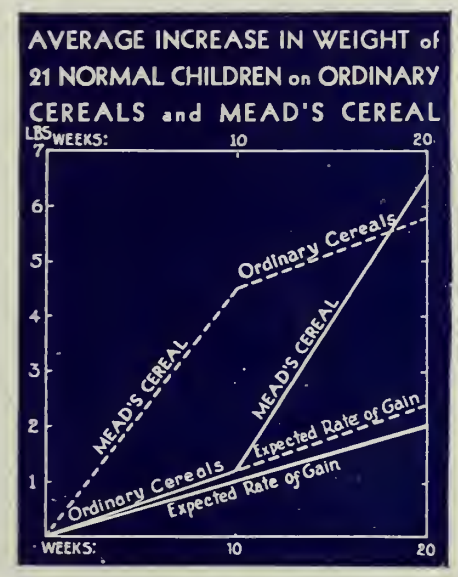

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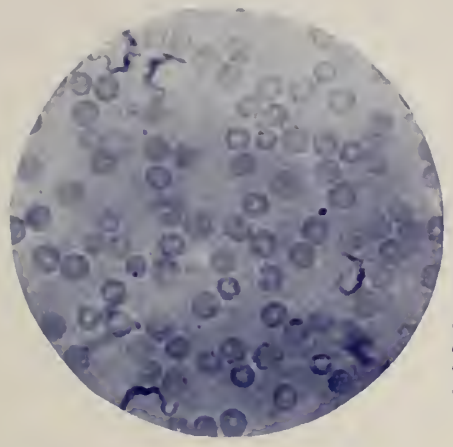

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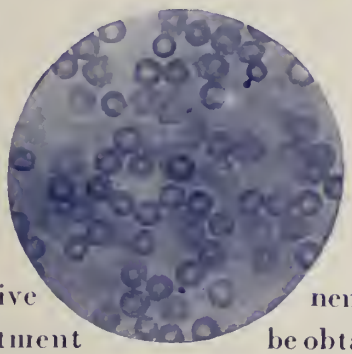

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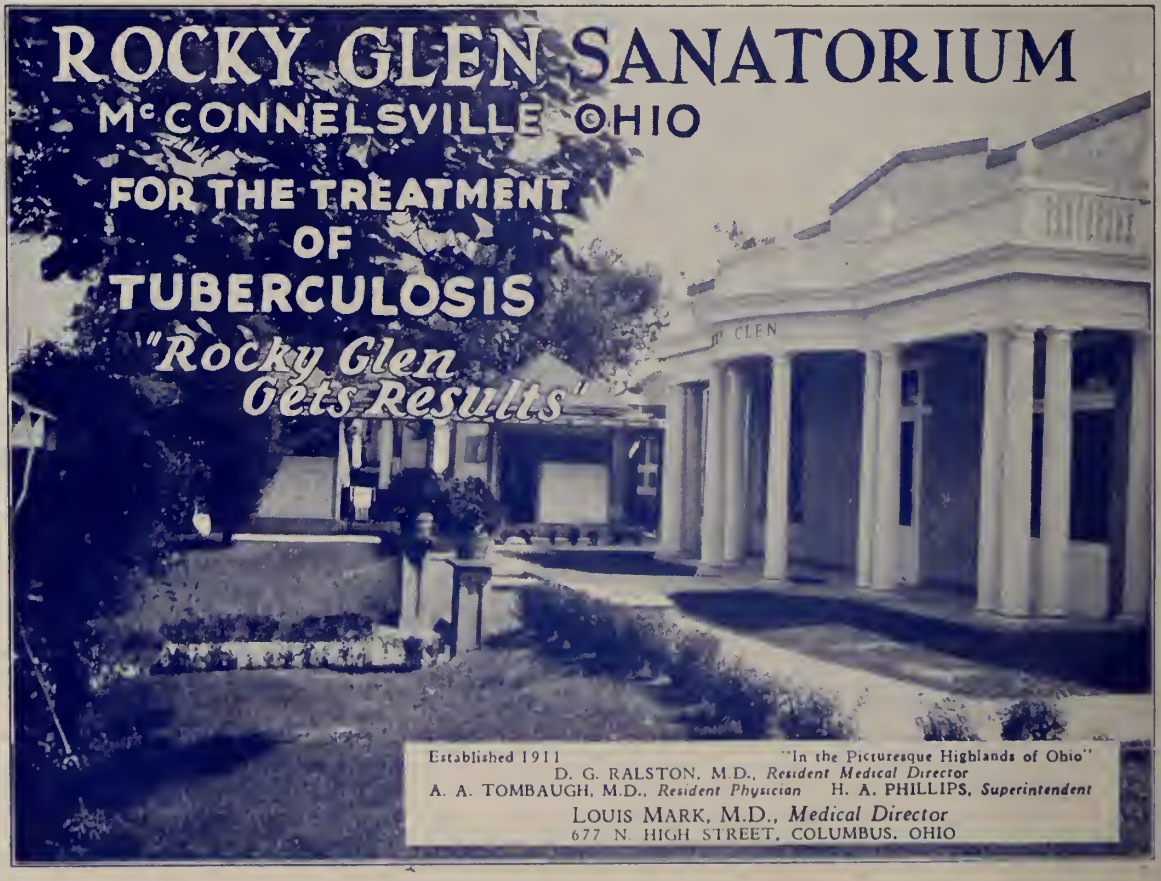

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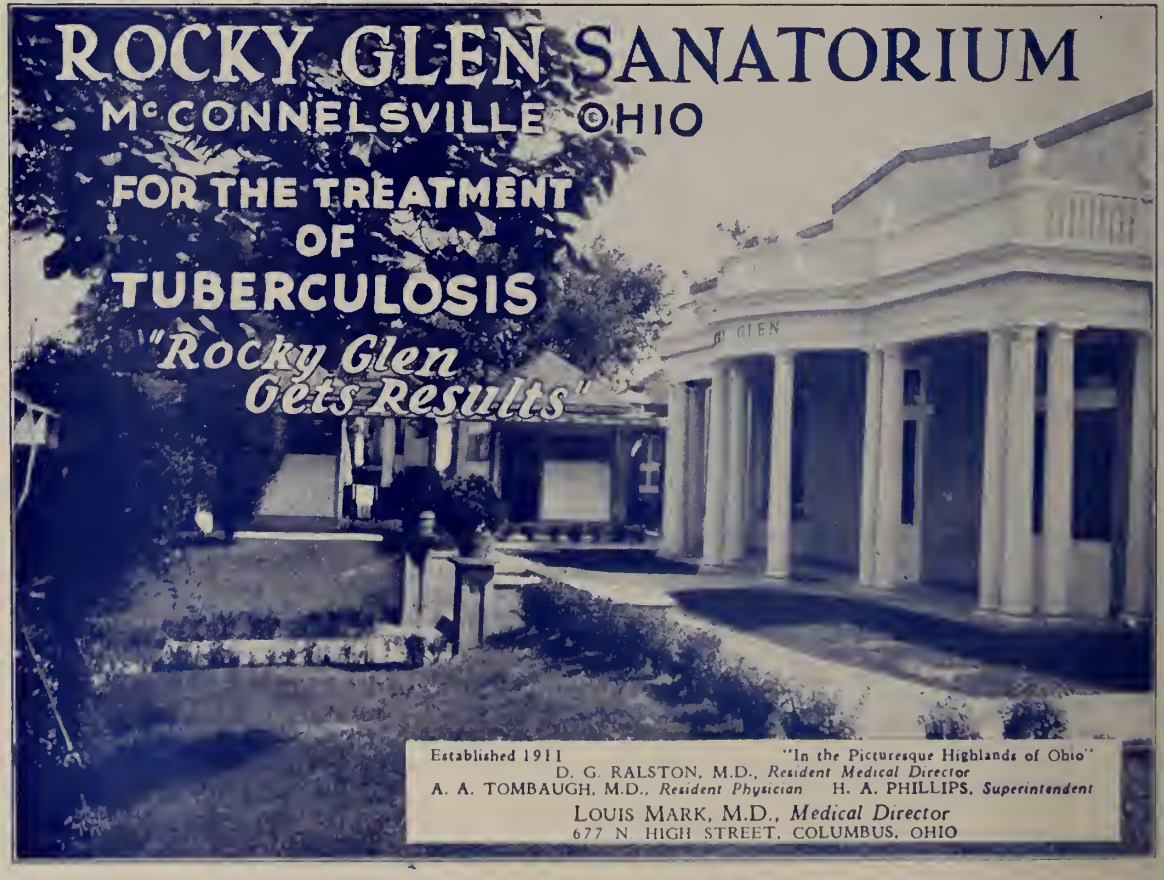

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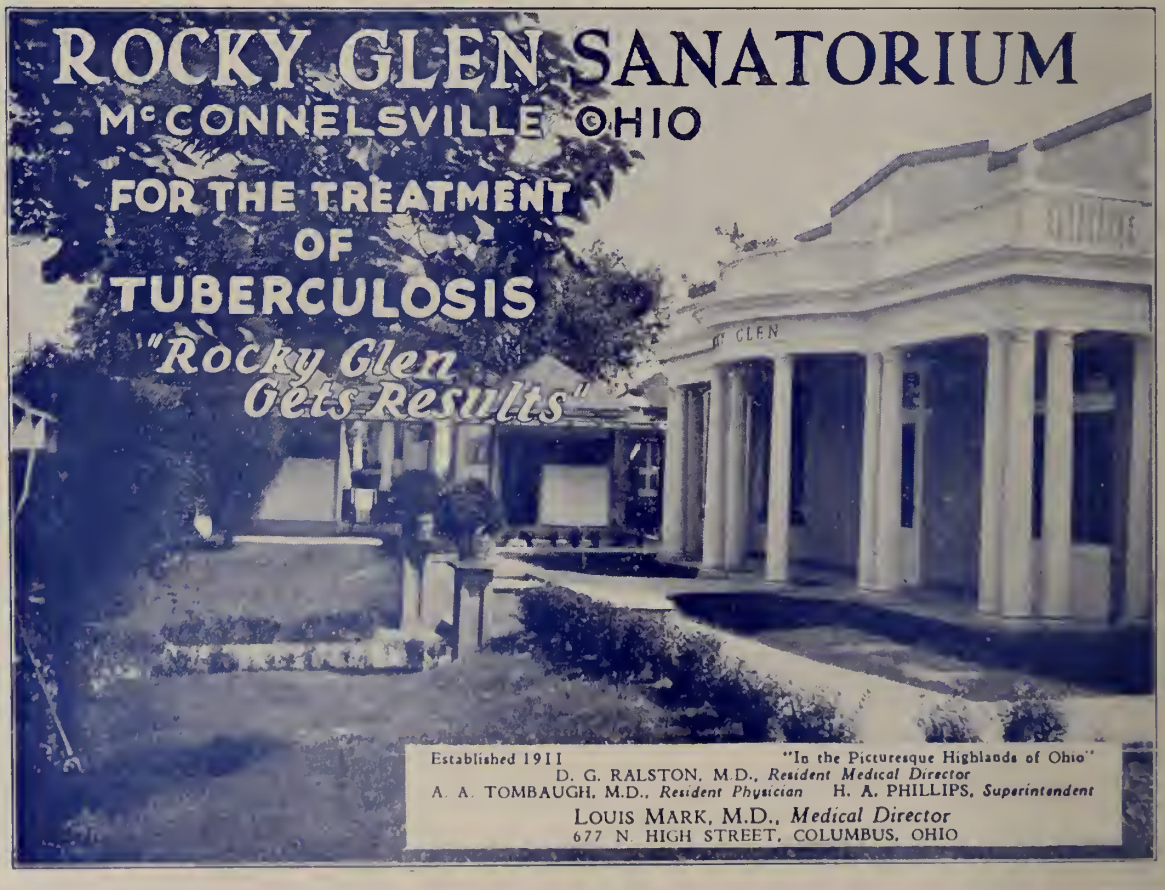

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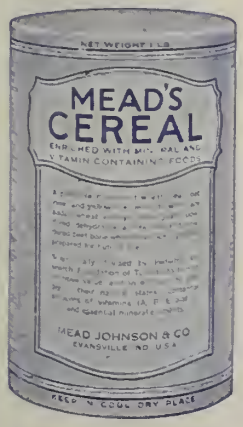

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